

Domestic *Preparedness*

U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND

An Alternative Health Care Facility:

CONCEPT OF OPERATIONS FOR THE OFF-SITE TRIAGE, TREATMENT, AND TRANSPORTATION CENTER (OST³C)

Mass Casualty Care Strategy for a Chemical Terrorism Incident

Prepared by:
Health & Safety Functional Working Group

CHEMICAL WEAPONS
IMPROVED RESPONSE PROGRAM

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SBCCOM

Alternative Health Care Facility

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Executive Summary

The United States Domestic Preparedness Program, instituted by the FY97 Defense Authorization Bill (PL 104-301, September 23, 1996) was established to increase America's domestic response capabilities to a nuclear, biological, or chemical (NBC) attack. In an effort to successfully identify issues related to weapons of mass destruction (WMD), the Department of Defense (DoD) delegated responsibility for executing this legislation to the U.S. Army Soldier and Biological Chemical Command (SBCCOM). In combination with the DoD's expertise in WMD, SBCCOM created the Chemical Weapons Improved Response Program (CWIRP) that would network with civilian responders to identify key response issues.

One of the most prevalent issues identified by the CWIRP, was a community's inability to care for an overwhelming number of chemically contaminated patients. Even when emergency responders successfully decontaminate and triage large numbers of patients at the scene, it is unlikely that area hospitals are prepared to receive these patients and treat them within the boundaries of the existing health care system. Jurisdictions need a plan to carryout victim triage, decontamination, treatment, transportation, and hospitalization in a time critical manner that improves patient outcome. Thus, planners must avoid intentionally overwhelming the health care system and may need to redistribute existing resources to positively influence patient outcome.

In response to this issue, the CWIRP developed an alternative health care facility, herein referred to as the Off-site Triage, Treatment, and Transportation Center (OST³C or Center). This facility will supplement a community's existing health care system in managing the overwhelming number of casualties, both actual and psychosomatic, following a terrorist incident. Specifically the OST³C is meant to care for those patients who have been triaged "Minimal" at the scene, those patients who are worried that they might have been exposed, and those who self-refer to the Center.

The intention of this document is to provide jurisdictions with a basic understanding of the OST³C so that they can customize the concept to fit their specific needs and incorporate their version of the Center into the larger response effort.

The *Concept of Operations for the Off-Site Triage, Treatment, and Transportation Center* was written to assist planners, administrators, responders, medical professionals, public health, and emergency management personnel better prepare for and provide mass casualty care. This document presents the philosophy of care for the OST³C as well as operational planning considerations. The OST³C Concept of Operations is meant to be flexible and modular. The intention of this document is to provide jurisdictions with a basic understanding of the OST³C so that they can customize the concept to fit their specific needs and incorporate their version of the Center into the larger response effort. Emergency planners must undergo a certain amount of preplanning to execute the OST³C concept, practice that plan with supporting agencies, and evaluate and refine the plan before implementing it in an actual disaster. Some jurisdictions may not enact the OST³C concept but will recognize the need to provide for and plan for some or all of the critical aspects identified within this document.

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Preface

The *Concept of Operations for the Off-site Triage, Treatment, and Transportation Center (OST³C)* is the product of a multi-agency working group, including representatives from government, military, public health, emergency management institutions, fire, police, and emergency medical service agencies. The information presented in this report represents a collaboration of multiple agencies from federal, state, and local levels in conjunction with scientific technical studies conducted by the U.S. Army Soldier and Biological Chemical Command (SBCCOM).

The process used to develop the recommendations in this report involved a comprehensive review of related literature, a series of facilitated tabletop discussions, an internal panel review by those who would likely staff an OST³C, and a full scale functional exercise whereby an OST³C was stood-up in a local school. Additionally, an independent panel, composed of representatives from other jurisdictions, that may likely utilize an OST³C, also reviewed the concept.

The proposed OST³C patient throughput of 80-125 patients per hour, or 400 to 750 patients per six-hour period, is based on the experience of the full-scale exercise. One hundred and sixteen people, who included law enforcement, decontamination personnel, runners, medical support, administrative support, transport personnel, mental health, and OST³C Officers, staffed the OST³C. The exercise was not specifically designed to measure patient throughput but rather to test the concept in general. Jurisdictions inclined to use the OST³C concept may use the proposed patient throughput as a guide, but actual patient flow may differ. Patient throughput is most affected by the number of staff, the capacity of the decontamination areas, the overall space of the building, and the ability of officers to dynamically re-assign staff from slower areas to busier areas.

The concept outlined in this report is neither mandated nor required for jurisdictions to use when mitigating the consequences of a chemical terrorist incident. Rather, it is presented to provide technical and operational guidance for those communities and departments that choose to undertake planning and preparation for responding to such events. We encourage you to review the data, understand the implications, and consciously decide what response procedures you would perform. Once you have made the decision that is best for your community, you should train and equip your jurisdiction accordingly.

The authors have made every effort to ensure accuracy of the information contained in this report. The opinions or recommendations expressed in this document are an informal consensus of the working group participants and do not necessarily reflect the official position of the U.S. Department of Defense.

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Foreword

The following *OST³C Concept of Operations* presupposes that jurisdictions have conducted standard emergency management planning. This concept is intended to be part of a larger disaster response plan and is not intended to function as a stand-alone tool. Although community authorities may not use the *OST³C Concept of Operations* in the manner it is presented, they will need to address many of the critical components that the OST³C concept identifies.

Emergency managers should conduct an all hazard approach when developing disaster response strategies. Standard emergency management planning should entail vulnerability and threat assessments, and resource analysis for all types of hazards, to include chemical weapons of mass destruction. Planners should identify critical factors that could affect the response efforts for each type of hazard and develop contingency plans to mitigate these issues.

Education and communication are key factors of a disaster response plan. The plan should be conveyed to the public using the most effective and appropriate resources available. Generally, jurisdictions that focus on educating the public have a more effective response and citizens exhibit less anxiety.

Catastrophic disasters require planners to coordinate response efforts on a broader level than typical emergencies. Mutual aid agreements between surrounding counties, regions, and states must be well defined so that city emergency managers know what level of support they can expect. Moreover, city emergency planners must have a strong understanding of the type of infrastructure they will create during a disaster to successfully integrate the additional resources. In addition, disaster response efforts must be documented in a particular fashion so that the jurisdiction is granted federal reimbursement. A meeting with the respective state's representative, who is responsible for filling out the application for federal support, will help emergency planners prepare to capture necessary information.

When a disaster warrants the use of an alternative health care facility, like the OST³C, then other services might be needed to support the response effort. These services include but are not limited to, a Reunification Center, a Family Assistance Center, casualty transportation services, and mass care shelters. A Reunification Center functions as an information site and is the central location for people to reunite with family members. A Family Assistance Center assists medical examiners/coroners in confirming remain identity, and supports family members of those who died in the disaster. Casualty transportation services may be beneficial, as patients will need to be transported from over-crowded hospitals and taken to the OST³C, a Reunification Center, or to their private residence. Mass care shelters provide housing if large numbers of citizens are without homes due to the disaster.

Our society expects emergency planners and responders to be well prepared in the event of any type of disaster. Concepts, like those that are described in the OST³C, can facilitate a community's readiness posture.

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An Alternative Health Care Facility:

Off-Site Triage, Treatment and Transportation Center (OST³C)

Abstract

Given the potential for acts of terrorism it is now imperative that health care systems be prepared to respond to a chemical weapons attack on a civilian community. An alternative temporary medical care facility, herein referred to as the Off-Site Triage, Treatment, and Transportation Center (OST³C or the Center) is envisioned to supplement the existing health care system in managing the overwhelming number of casualties, both actual and perceived, following a terrorist incident. It has been designed by the Improved Response Program (IRP) under the auspices of the Department of Defense's Domestic Preparedness Program via a series of exercises called Baltimore Exercises (BALTEX).

The OST³C will be capable of handling approximately 80-125 non-critical patients per hour (or 400 to 750 patients during a six-hour period). In addition to triage and treatment, patients will also undergo a detailed decontamination meant to remove chemical contaminants. The patient care endpoint is either transport to a higher level of care facility or discharge to home with self-care instructions.

The goal of the OST³C is to provide care for a specific patient population and thereby improve overall patient outcome for the community. By re-directing those who are triaged Minimal at the scene, the psychophysiologic casualties who have no physical injury (anticipated ratio of psychophysiologic casualty to actual casualties is expected to be at least 5:1), the non-critical patients that show up at over-crowded hospitals, and the citizens who self-refer directly to the Center, hospitals can focus on patients who require in-hospital services and the OST³C can focus on patients who need basic symptomatic and supportive care.

The OST³C is an interim patient clearinghouse that will be disassembled once the flow of new patients has diminished to the point that they can be handled by the existing health care system.

1.0 Introduction

1.1 Purpose

The purpose of this document is to describe an alternative health care facility concept developed by the Improved Response Program (IRP). The information herein may be used as the basis from which governmental jurisdictions, agencies, or health care systems can develop an alternative health care facility as part of their own emergency response plan.

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1.2 Mission

The mission of the OST³C is to supplement the existing health care infrastructure by providing triage, decontamination, treatment, and if necessary transportation to a higher level of care, for victims of a chemical weapons attack or similar emergency.

1.3 Background

The threat of chemical or biological terrorist attacks against U.S. citizens is of national concern. The Tokyo subway attack in March 1995 illustrated the likelihood of a chemical weapons attack against a civilian population and the overwhelming impact 5,500 patients had on the existing health care system. This occurrence, together with other more recent national and international terrorist incidents, heightens concerns about the United States' ability to effectively manage incidents involving chemical agents.

It is the intent of terrorists to cause damage and confusion in an attempt to throw society into a state of chaos. They are more tempted than ever to use weapons of mass destruction (WMD) for an attack because of their effectiveness in creating mass casualties and hysteria. It is impossible to predict exactly which agents will be used, how they will be disseminated, where they will be employed, and which population will be targeted. The best way to effectively mitigate the effects of a chemical WMD incident is through comprehensive planning, training, and preparation.



The Tokyo Sarin attack exemplified how even an educated civilized society responds to an act of terrorism. The ratio of those who thought they were injured to actual casualties was 5:1. Twelve people died as a result of the incident, less than 200 patients were treated as hospital inpatients and approximately 1,000 others needed to be evaluated and treated in the emergency department; yet more than 4,500 additional people sought medical care.

The Off-Site Triage, Treatment, and Transportation Center (OST³C) supplements the existing health care system in managing the overwhelming number of casualties, both actual and psychophysiologic, following a terrorist incident.

The overwhelming number of casualties from a WMD incident will put a tremendous strain on a community's health care system. Victims might leave the scene contaminated and attempt to seek medical care on their own. They may arrive at their private physicians' offices, managed care organizations, and local emergency departments without the benefits of decontamination or triage. They could contaminate their own homes, their loved ones, and anywhere they may go from the incident site.

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Most hospitals will have difficulty coping with the sudden onslaught of patients and the need to decontaminate those victims arriving from the scene. In order to cope with these large numbers of patients, communities should be prepared to activate pre-planned mass casualty plans.

The IRP, under the auspices of the Domestic Preparedness Program, through a series of exercises entitled Baltimore Exercises (BALTEX), identified key response issues unique to a chemical weapon of mass destruction incident. These exercises identified the need for jurisdictions to formulate response plans that optimize their existing resources by coordinating them differently during a disaster. One recommendation was to re-direct less serious, potentially contaminated, and possibly psychophysiologic casualties to an interim medical facility to avoid purposefully overwhelming the health care system.

In an attempt to manage a large number of casualties, the IRP developed an alternative health care facility concept. This facility, referred to as the Off-Site Triage, Treatment, and Transportation Center or OST³C, is a casualty clearinghouse that is capable of handling between 80-125 non-critical patients per hour, or 400-750 victims during a six-hour period. The OST³C facility can be replicated to meet the need to handle a larger patient population. The duration of the OST³C is short-lived, as most chemical agent casualties will not require extended patient observation or in-hospital patient care.

1.4 Assumptions

- 1.4.1 The citizens of the United States are subject to an act of chemical terrorism.
- 1.4.2 A well-planned chemical agent release is likely to produce a significant number of casualties that will overwhelm the current health care system.
- 1.4.3 Some chemical agents (e.g., mustard agent) produce delayed signs and symptoms of contamination. Patients exposed to these types of agents are more likely to cross-contaminate those with whom they come in contact.
- 1.4.4 Most chemical agent liquid exposures (e.g., nerve agent) will produce immediate signs and symptoms. Those patients who have been exposed to nerve agent and only present with mild signs and symptoms will likely not die from agent exposure.
- 1.4.5 A terrorist attack involving a chemical WMD will have instantaneous effects on the community's emergency response system.
- 1.4.6 Local hospitals can expect to receive contaminated victims directly from the scene.

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- 1.4.7 Potentially contaminated victims will self-refer to the closest medical facilities and private medical care providers.
- 1.4.8 There will be a large number of ambulatory psychophysiologic casualties.
- 1.4.9 A mass casualty management system that rapidly integrates existing medical resources will be needed to care for victims.
- 1.4.10 People will be reluctant to go to an alternative health care facility and will still attempt to enter traditional hospital emergency departments.
- 1.4.11 During a large-scale chemical terrorist incident the standard of care may temporarily change to provide the most effective care to the greatest number of people affected.
- 1.4.12 The local health department will play a role in assisting hospitals by supporting the activities of alternative health care facilities.
- 1.4.13 Most health departments have medical staff trained to a minimum of the first responder level.

2.0 Aspects Influencing Operational Methodology

2.1 *Similar To A HAZMAT Response*

Responding to a terrorist attack, which involves the use of chemical agents, is similar to a hazardous materials (HAZMAT) response, with the exception of the following:

- There exists the potential for an extremely large number of casualties because of the deliberate nature of a terrorist incident.
- Since the incident is a deliberate attack, there is a concern that secondary devices will be employed targeting responders.
- The entire incident is a crime scene requiring the collection of criminal evidence and suspicious victim belongings. The preservation of a proper chain of custody must be maintained for all evidence.



Managing a chemical weapons (CW) incident requires addressing all these concerns; therefore those providing patient care at the OST³C need to be aware that patients could be suspects and their belongings may be evidence.

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As with a large HAZMAT incident or any multiple casualty incident, it is imperative for the emergency response community to ascertain whether or not the hospitals in the area will be able to cope with the sudden surge of patients. With appropriate training and forethought these responders will be in a better position to evaluate the impact that will be placed on the health care system.

2.2 Hospitals Will Not Be Able To Handle The Patient Surge

Traditionally in any type of HAZMAT incident, hospitals provide the bulk of decontamination and treatment for victims. In a CW incident however, it is questionable if hospitals will be able to handle the patient surge, as HAZMAT incidents produce only a few casualties and CW incidents can produce a multitude of patients. Most hospitals are not prepared to decontaminate a large number of potentially contaminated patients. Such an influx of patients may threaten the integrity of the hospitals and the safety of their personnel. If a few hospitals shut down in a particular health care system, due to internal contamination, then the system may no longer be in a position to care for the remaining casualties.

Maintaining the current or routine patient load for a community is an important consideration during a mass casualty incident. For example, there will still be people who will suffer from heart attacks (possibly even more than normal, which occurred in the 1996 Centennial Park bombing in Atlanta, (Nordberg, 1996)), medical emergencies, motor vehicle collisions, traumatic incidents, etc. The health care system must continue to accommodate the so-called “unaffected community.”

In addition to the patients transported from the incident scene, the health care system will be inundated with the following populations:

- Large numbers of psychophysiologic patients.
- Victims who have left the scene and seek treatment on their own.
- Friends and family members seeking information regarding casualties.



In order to accommodate the patient surge, hospitals should look to initiate their own disaster plans. Those disaster plans may include discharging patients that can be moved to outlying facilities or to their respective homes. Other options may include relocating some of the in-patient populations, who are stable enough, to a ward unit or unused portion of the hospital. Further options may include transferring patients to an alternate location outside the hospital to make room for patients arriving from the incident.

Hospitals will not be able to accommodate the patient surge from a terrorist incident involving chemical weapons of mass destruction. This was evident in the 1995 Tokyo Sarin incident that resulted in over 5500 patients trying to enter the health care system.

2.3 Re-Distributing Resources During a Disaster

Ideally, hospitals should continue to provide care for those patients who need a level of treatment that only a hospital is most suited to provide. Hospital resources even under disaster conditions cannot be easily replicated, supplied, or staffed. The traditional mission of a hospital may shift during a disaster from rendering care for the community at large to rendering care for acute patients.

A more generally accepted premise in disaster management is to provide treatment for triaged Minimal patients outside traditional emergency departments. Minimal casualties require considerably less resources thereby making it easier to provide appropriate care in non-traditional settings. Minimal casualties generally do not require in-patient services, or extensive medical tests, nor do they demand acute care treatment.

Well before hospitals are taxed beyond their capability or when the health care system is forced to handle a patient load beyond its designed ability, a jurisdiction should establish a means to treat casualties outside the boundaries of the traditional hospital realm. One example of an alternative health care facility is the OST³C.

Emergency managers must determine when opening one or more alternative health care facilities is beneficial. Several factors influence when a community should set-up an OST³C or when treating casualties outside the normal hospital setting is beneficial. Such factors include but are not limited to:

- The size/magnitude of the incident.
- The geographic distance from the incident site to a planned alternative health care facility site.
- The need to care for patients within a reasonable period of time.
- The expected surge of patients will likely occur within the first six hours of the incident.
- The length of time needed to stand-up an OST³C.
- The optimal number of patients that can be treated per hour in proportion to the number of staff available to operate each Center.

3.0 Facility Requirements

An **ideal** OST³C has the following resources. It can be established however, with considerably fewer resources and adapted to fit a jurisdiction's assets and disaster plans.

- Separate male and female locker rooms and showers.
- Large open areas to support helicopter delivery of state and federal resources.
- Spacious parking facilities.
- Good internal access roads, allowing for emergency vehicle ingress and egress.
- Electricity, preferably with generator backup.
- Internal and external water supply (e.g., fire hydrant).

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- Access to sanitary sewer system.
- Easily identifiable to the public.
- Large enough facility to co-locate multiple services within one campus, (e.g., patient decontamination/treatment, crisis intervention, law enforcement investigation, animal decontamination).
- Gymnasium or large room.
- Bathrooms.
- Heating/Air Conditioning/Ventilating System that can be sector off to avoid cross contamination.
- Securable internal and external rooms.
- Chairs.
- Tables.
- Areas to post information (e.g., chalk and bulletin boards).
- Public announcement systems.
- Cafeteria/food service facility.
- Auditorium.
- Copy machine.
- Fax machine.
- Hard-wired phone lines.

Examples of buildings that may have much of the recommended items or buildings that can be modified to facilitate an OST³C include fitness centers, medical buildings, hotels, college dormitories and campus facilities, motels, high schools, and middle schools. Even warehouses and tents can be converted into an OST³C, providing a jurisdiction is prepared to allocate extensive resources to set up such a facility. Of the aforementioned facilities, high schools and middle schools contain much of the needed equipment and may be an optimal choice for many jurisdictions.

For any building to be readily available as an OST³C, there should be a specific memorandum of understanding (MOU) in place between the lead agency, which would be designated by a jurisdiction's emergency management agency, and the superintendent of the facility. A jurisdiction may need a separate memorandum for each building that is designated as a possible OST³C.

Facilities that have the following items are optimal: male shower/locker room, female shower/locker room, large parking areas, good access roads, easily identifiable by the public, large gymnasium or similar area, electricity, heating, securable internal and external rooms for storage, and internal and external water supply.

Planners may want to identify possible alternate health care facility sites based on the locations of suspected terrorist targets or based on pre-existing resources that would supply staff and equipment to the OST³C, such as a hospital. Planners should be careful to outline buildings that have not been previously committed as disaster assets (e.g. Red Cross Shelters, National Guard Armories). An OST³C should be easily recognized and its location should be accessible by the

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general public. Ideally, it should be located close to the population it would serve although outside of the affected or contaminated area. It should be close to public transportation for those individuals who self-refer.

If the initial incident is an alleged terrorist attack, then building security is a major facility requirement. Planners must choose a building that can be secured and its access roads easily controlled. Officers should consider that terrorists might employ secondary devices targeting patients and staff, thus they should routinely perform sweeps of the facility and the surrounding grounds as part of their perimeter security effort.

Memorandums of understanding (MOU) should address how the point of contact for each building will be notified, how the building will be evacuated if necessary, and if any specific personnel from the building are needed to staff the OST³C such as the building maintenance engineer.

Once buildings have been identified as potential OST³Cs, the lead agency should review those buildings and determine how patients will move in and through the building/campus. The jurisdiction should make notes regarding the particular needs for each building, specifically for buildings that do not have the aforementioned resources.

The potential exists that the facility may become contaminated during its use. Wooden floors for example, are specifically subject to irreversible contamination, as they are porous. Jurisdictions may choose to use older buildings first so that new facilities are not razed or closed down if the building cannot be fully decontaminated. Even if a building is fully decontaminated, the jurisdiction may need to temporarily close down a building due to the initial stigma that may be associated with a supposed “contaminated” building.

4.0 Organization and Staffing

The command and control for the OST³C is modeled after the Medical Aid Station Incident Command System (MASICS). MASICS is a medical management plan based on the nationally recognized Incident Command System/Incident Management System (ICS/IMS) intended for use during medical crises.

It is important to note however, that the MASICS management plan must be altered to prevent cross-contamination at the OST³C. Those who staff the Warm Zone (contaminated portion) of the Center must remain in the Warm Zone and those who staff the Cold Zone (uncontaminated portion) of the Center must remain in the Cold Zone. Annex A delineates a proposed organizational chart, but jurisdictions may revise the chart to suit their resources and terminology. Each jurisdiction should determine necessary key positions to accomplish each function.

4.1 Command: Management Personnel

4.1.1 OST³C Commander

Overall command and control falls under the auspices of OST³C Commander. A jurisdiction's emergency management agency (EMA) must designate a lead agency for the OST³C. Agencies that may be best suited as the lead agency include a community's emergency management agency, fire department, EMS department, third party EMS service, or health department. The lead agency will assign the role of the OST³C Commander.

Critical functions of the OST³C Commander include:

- Manage and control the overall operation of the facility.
- Coordinate the operation of the Center so it can function at the highest level of efficiency possible, given available staff and equipment.
- Report staffing and resource needs to the lead agency.
- Appoint officers for the other command functions. (See Figure 1.0).

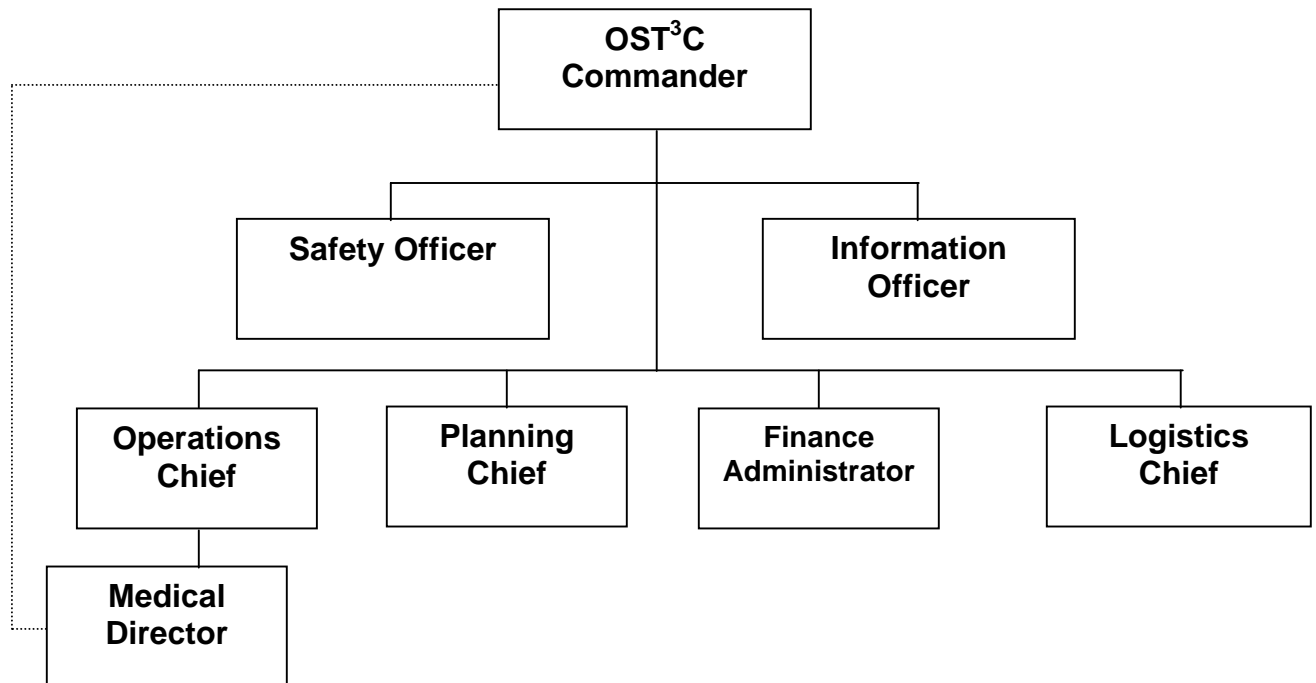


Figure 1.0-OST³C Incident Command System

4.1.2 Safety Officer

The Incident Command System requires the use of a Safety Officer. The critical function of the Safety Officer is to monitor safe practice at the Center and mitigate any safety issue before undo harm is posed to personnel or patients. Like other operations involving contaminated zones, the lead agency may determine to staff additional safety officers in specific zones to avoid cross-contamination. The IRP also recommends there be a Safety Officer in the Cold Zone and the Warm Zone of the Center.

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4.1.3 Information Officer

The critical functions of the Information Officer are to release information to patients and the media in accordance with the jurisdiction's protocols. This officer will be responsible for both internal briefings for patients and external briefings for the public as a part of the Incident Commander's public affairs plan. The OST³C Information Officer must be linked to the Joint Information Center (JIC) so that all information regarding the incident is consistent, accurate, and released to the public in a controlled manner. The Information Officer generally disperses information regarding the incident, hotline/help-line numbers, and information regarding the location of those transferred from the Center. Public confidence is strengthened when the same individual makes these announcements at regular intervals.

4.1.4 Operations Chief

Critical functions under the Operations Chief include security, triage, decontamination, treatment, and patient out-processing. Jurisdictions may use sectors or zone operation chiefs to accommodate the Warm and Cold Zones of the Center and divide critical functions accordingly.

The Warm Zone Sector Chief should oversee the following critical functions of the OST³C operation:

- Perimeter security.
- Traffic control.
- Initial triage.
- Gross decontamination.

The Cold Zone Sector Chief should oversee the following critical functions of the OST³C operation:

- Internal security/detention.
- Detailed decontamination/redress.
- Re-triage.
- Treatment.
- Out-processing.
- General assistance.
-

4.1.5 Logistics Chief

Critical functions within logistics include transportation, facility maintenance, communications, and supply. Transportation must be coordinated as patients will arrive from the scene by bus or will self-refer. They may arrive by private vehicle, bicycle, commercial transportation, or foot. Transportation also includes coordinating patients requiring transfer to outlying hospitals. Transferring patients to area hospitals requires coordination with the on-scene Transportation Officer as to which hospitals are available to receive patients. Additionally the transportation component must organize transport for citizens to a Reunification Center or home.

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Another logistics critical function includes developing and maintaining an internal and external communications system at the Center. The system may include 2-way radios, cell phones, laptops, computer network, palm pilots, runners, or whatever technology the jurisdiction presently uses.

The facility must also be maintained. Logistics must coordinate for the mundane needs of staff and patients such as bathrooms, water supply, chairs, tables, food service, and securable rooms. The IRP recommends that a person who is familiar with the facility provide maintenance support for the OST³C.

Logistics must also organize and coordinate pharmaceutical and supply acquisition and distribute such items throughout the Center, both in the Warm and Cold Zones. Staff must create an approach to deliver equipment in the Warm Zone of the Center without perpetuating cross-contamination.

The Incident Command System helps jurisdictions organize the OST³C and divides tasks within each respective officer's span of control.

4.1.6 Planning Chief

Critical functions within the planning section include maintaining a liaison role between the multiple agencies that support the Center and the OST³C Commander. Agencies need one point of contact to discuss personnel and supply support. Often the OST³C Commander will be engaged in coordinating the efforts of the Center and will not be immediately available for this function.

Another critical function of planning is organizing the staff and assigning them to appropriate positions. Medical licenses and credentials must be verified before staff are assigned. Furthermore, those assigned within the Warm Zone must be given personal protective equipment (PPE).

Since the Planning Chief is directly involved with each agency and with assigning staff, he/she will know the current capability of the Center. Once the Center is fully staffed and the maximum number of patients is being treated per hour, the Planning Chief may request that other Centers open to handle additional patients if necessary.

Lastly, the Planning Chief must develop a means to track patients through the Center. This task can be delegated to others assigned within this division, but such information regarding how many patients are entering the system, is necessary to planning the overall needs of the Center.

4.1.7 Finance Administration

The finance section has the responsibility for accounting for the costs associated with the operation of the OST³C. It is important that all personnel at the OST³C document employee hours and associated costs to include supplies,

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pharmaceuticals, transportation, food, etc., to facilitate disaster relief money reimbursement. Additional functions will include:

- Staff time keeping.
- Filing compensation claims.
- Authorizing the purchase of supplies.

4.1.8 Medical Director

The medical director has the responsibility for overseeing all medical aspects associated with patient care at the OST³C. The medical director should be located specifically in the treatment area, assisting other providers with patient treatment, and should be in direct radio contact with triage personnel stationed in the Warm Zone of the Center. The medical director reports directly to the Operations Chief but can provide the OST³C Commander input and should be considered part of the command staff.

4.1.9 Inter-Agency Command Post

Establishing an OST³C requires coordinating several agencies from one jurisdiction. The OST³C Commander must establish an Inter-Agency Command Post. The Commander must brief all chiefs and officers regarding their primary objective and to whom they directly report. Each agency should present their current capability and their ability to accomplish their designated objective. Such briefings should be held on a regular basis.

Following the briefing, chiefs/officers should meet with those who will support their designated objective. Officers should hand out written job descriptions, relay if staff need to wear PPE, specify to whom they report, confirm from whence patients originate, and where patients need to go, before the Center is ready to receive patients. The IRP recommends that officers provide staff, in writing, any specific information that is different from what they are accustomed to performing on a daily basis (e.g., administering antidote treatment therapy).

4.2 General Staffing

There are many critical factors jurisdictions must consider when composing a compliment of staff to work at the OST³C. Each jurisdiction will have different resources from which to draw, therefore the specifics for staffing the OST³C should be planned by the jurisdiction.

One factor that directly affects the number of staff needed is the number of OST³Cs a jurisdiction may establish at one time. The IRP identified that a community must be able to process the majority of casualties within the first six hours following an incident. Thus a jurisdiction may need to open more than one OST³C. The decision to open multiple Centers will be based on an estimated number of patients and the availability of personnel

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and supplies. Moreover, the geographic location of the incident or location of assets may influence the decision to open several Centers to accommodate the patient surge.

The maximum number of patients that can be evaluated and treated within the first six hours is directly proportional to the number of personnel who staff a Center. Other variables that strongly influence the number of patients that can be decontaminated and treated include ambulance transportation availability, the maximum capability of gender specific showers, and how quickly patients can be transferred from the Center to home or a Reunification Center.



All OST³C staff should receive Domestic Preparedness (DP) Awareness and Operations training and be familiar with the OST³C Concept of Operation. Annex B outlines training performance requirements, based on the 120 City Domestic Preparedness Training Program, called the Performance Objective Matrix, (Supporting Information Section, of the CWIRP Playbook, May 2001). In exigent situations, when jurisdictions are unable to staff the Center with people who have received this training, the general staff should be assigned positions that are closely related to their regular job function. *(For more information regarding the type of staff an OST³C requires, see Annex C. Annex C correlates the required skill set staff needs to perform each critical function.)*

Another critical factor when selecting staff is their ability to perform assigned tasks while wearing Personal Protective Equipment (PPE). There are specific safety requirements associated with PPE that individuals must meet, especially with respirators (29 Code of Federal Regulation 1910.120, 1910.134). Again, the jurisdiction may need to assign staff that are already accustomed to wearing PPE to specific roles in the Warm Zone of the Center, whereas others can be assigned within the Cold Zone.

Sources that may be able to allocate medical providers include volunteer fire and EMS departments, private ambulance companies, allied health agencies, and health professional education institutes (e.g., physician/medical school, nursing, nurse practitioner, physician assistant, and paramedic schooling programs). Veteran's Administration hospitals, home-health agencies, and temporary nursing agencies may also be able to medically support the efforts of the OST³C. Laboratories, epidemiologists, and health departments may have staff that could support data collection and tracking functions.

Some jurisdictions may not have the capability to support an alternative care facility due to a lack of staff. Under disaster circumstances, jurisdictions may request specific institutions (i.e., hospitals and clinics), to allocate a certain number or percentage of staff to disaster relief functions. For example, Florida State Sheriff's Department has a Statewide Emergency Mobilization Plan that mandates in the event of a Level I Disaster, each law enforcement agency will assign a voluntary number of their work force to the disaster relief effort; in a Level II Disaster, 5% of the work force is required, and in a

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Level III Disaster, 10% of the work force is required to support disaster relief efforts (Florida Sheriff's Association Statewide Task Force, 1999). The magnitude of the disaster will determine the level of disaster and thereby the number of staff to mobilize. Jurisdictions should consider applying the Florida mobilization concept to staff alternative health care facilities. Though it may appear that a hospital's capability is decreased as its in-house staff is assigned to a disaster effort that will only be the case, preliminarily. Overall, the larger incident will be better managed and consequently fewer patients will flood the hospitals, thereby creating less strain on the health care system.

Under disaster circumstances, jurisdictions may need to initiate MOUs with specific institutions to allocate a certain number or percentage of staff to the disaster relief effort.

4.3 Volunteer Staffing

Volunteer organizations can be a good source for additional staff. Some jurisdictions may already have established a disaster volunteer compliment of personnel. The more prepared this pool of personnel are, the easier it will be to assign them to an alternative health care facility or any disaster relief function. Jurisdictions may need to offer volunteer workman's compensation coverage, train them on Domestic Preparedness Awareness and Operations, and pre-credential them to facilitate overall placement at the OST³C. A recommended list of training performance requirements is listed in Annex B called the Performance Objective Matrix. This matrix is based on the 120 City Domestic Preparedness Training Program (Supporting Information Section, CWIRP Playbook, May 2001).

When a jurisdiction must depend on a large contingent of volunteer support, the IRP recommends that the lead agency assign key personnel to leadership positions and place volunteers in support roles.

Should citizens arrive at the OST³C attempting to volunteer their services, the OST³C Commander or Planning Chief should direct them to the larger part of the Incident Command structure that supports assigning volunteers. Those in charge of logistics for the entire incident will be better prepared to assign personnel to areas that have the greatest need. Moreover, jurisdictions must verify medical credentials/license, training and suitability before assigning persons to medical positions.

4.4 Control: Communications

The OST³C must have a communication system. The form of communication, e.g., 2-way radios, cell phones, runners, or networked computers, will depend on the jurisdiction's available resources. Like any disaster, communications is vital to the overall operation at the OST³C. The lead agency is responsible to provide a communication system that works and that their people know how to use.

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As in any disaster the lead agency should prepare a backup communication system. If that system entails the use of runners, the logistics chief must educate staff how to effectively use them.

Implementing a communication system, which is already in place or a type of technology that personnel are already accustomed to using, is the most helpful. Some jurisdictions may have elaborate communication systems with palm pilots, barcode readers, networked computer laptops, etc. Other jurisdictions may still use paper systems. Whatever technology is used, the OST³C should staff the appropriate level of technological support.

5.0 Scope of Practice

5.1 General

General care provided at the OST³C will be performed at the basic life support (BLS) level. Jurisdictions can determine additional aspects to providing general supportive care based on their assets. If a jurisdiction has the capability to provide a contingent of advanced life support (ALS), the medical director for the OST³C should allocate these resources to the treatment area to stabilize patients who become critical.

The OST³C is not intended to be a definitive care site nor is it intended to operate at the level of a traditional emergency department. Staff should conservatively assess a patient's chief complaint, vital signs, and pre-disposing medical history when determining if a patient should be sent to a higher level of care facility.

Although the OST³C operates at the basic life support level, jurisdictions may want to broaden its scope of practice to include administering chemical agent antidote. Ultimately jurisdictions must determine how much antidote to allocate to the OST³C effort and if the antidote is for patients or staff. If jurisdictions do allocate a small cache of antidote, the IRP recommends that jurisdictions place it where patients are initially triaged to help stabilize those who arrive in critical condition.



General care at the OST³C will be performed at the basic life support level. The OST³C is not intended to provide definitive care.

5.2 Ethics and Liability

Depending on the magnitude of such an event, the level of care that American citizens are accustomed to will temporarily change to effectively care for the greatest number of victims. Medical decisions at every level will be made swiftly and will be based on limited information and can only be enacted based on limited resources. In response to a

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chemical mass casualty incident, planning should clearly indicate the level of care that will be provided at specific treatment facilities.

Jurisdictions should develop guidelines regarding the scope of practice and document them as part of their jurisdiction's plan for responding to chemical terrorism. These guidelines should be formulated with state licensing and public health agencies and approved prior to use.

Jurisdictions should consider developing guidelines pertaining to the OST³C with ethics professionals and the state's attorney general. Aspects that affect a citizen's basic expectations regarding level of care, patient confidentiality, and patient privacy, may concern citizens to the point of pursuing litigious outcomes in the aftermath of the disaster. Although the community would not directly dispute that the enormity of the disaster will likely affect the availability of resources, they will grow concerned when there is a change from the medical norm. Plans developed with input from the aforementioned officers will minimize litigation resulting from implementing the OST³C concept.

6.0 Notification, Activation, and Deployment of Personnel

6.1 Notification

Jurisdictions must determine the lead agency to manage and coordinate OST³C efforts. A representative of the lead agency should be assigned the task of maintaining the plan so that it does not become antiquated. Though it need not be a full time duty, appointing a responsible lead agency will help the community's readiness posture.

The lead agency should establish a notification process to activate those other agencies that will support the OST³C. The notification process should follow pre-established protocols and call-down lists. Automated emergency phone calls, reverse 911 systems and/or automated fax notifications are methods to notify supporting agencies of an OST³C activation.

Part of the notification process includes informing hospitals where the incident occurred, the chemical agent, the impact of the incident, the level of personal protective equipment hospital personnel should wear, signs and symptoms that warrant treatment, treatment modalities, as well as specific information regarding the OST³Cs. Regarding the OST³C, the notifications should specify the following:

- The location of the OST³Cs.
- The purpose of the OST³C.
- Its anticipated duration of operation.
- What kinds of patients should be re-directed to the OST³C.

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The lead agency should also notify mass transportation assets and inform them of the aforementioned information, if they will be used in conjunction with establishing the OST³C.

The public must also be informed of the OST³C. The media should be briefed and their help enlisted in disseminating accurate information to the public. The lead agency should request that the Public Information Officer at the Emergency Operations Center (EOC) announce the OST³C's purpose, location, and duration of operation. Involving the media early will help inform the community that they can obtain care quickly and it will instill the public's confidence that an alternative health care facility will be able to help them.

Jurisdictions must determine the lead agency to manage and coordinate OST³C efforts. A representative of the lead agency should be assigned the task of maintaining the plan so that it does not become antiquated.

6.2 Activation

The amount of time a jurisdiction needs to establish an OST³C can greatly influence its effectiveness in mitigating a mass casualty incident. If it takes an extensive period of time to establish an OST³C, it may not be a valuable tool. The OST³C should be operational within approximately one hour of notification. Activation procedures will entail the lead agency deploying specific pre-packaged resources/equipment that can be automatically delivered to or stored at an OST³C site, or requiring supporting agencies to deploy pre-packaged disaster items.

To decrease the amount of time needed to open an OST³C, the IRP recommends that staff and resources should not be mobilized at one central location but rather at each agency's headquarters or other pre-determined location. Each supporting agency should mobilize their own required staff and resources and be responsible to check their personnel's credentials/identification and deployment readiness. Each agency should maintain their own personnel rosters and staff assignments at the OST³C and share the information with the OST³C Commander. Once agencies are mobilized they should report directly to the OST³C and send an agency representative to the OST³C Command Post.

6.3 Deployment of Personnel

Assigned personnel should report directly to the OST³C. An agency representative should report to the Planning Chief and brief the chief of their present capability. The Planning Chief should remind the agency of their primary mission, hand out written objectives/tasks, request that they assign personnel to specific jobs, obtain a staff roster from the agency and request that those assigned to leadership roles report to the command post at a specific location and time.

7.0 Patient Population

7.1 General

The intent of the OST³C is to care for the following types of patient populations:

- Triage Minimal patients from the scene that have been transported by EMS.
- The self-referring patient population upon hearing a public announcement.
- The psychophysiological patient.
- The non-critical patients that arrive at area hospitals but would be more appropriately cared for at the OST³C.



For the purposes of this concept, Minimal will be defined as a known casualty that was at the incident site and falls within the triage parameters of Minimal versus Immediate or Delayed. In general, patients who fall within the Minimal category can breathe spontaneously, are oriented to their surroundings and have adequate circulatory/tissue perfusion.

Psychophysiological patient is defined as persons who present at health care facilities with the intent of receiving a medical evaluation and treatment. Often these patients may not have been part of the initial incident nor have they sustained a physical injury. The psychophysiological patient generally does not have any physical ailments but do believe that they may have some physical injury and are concerned that they have been harmed. These patients do need a medical evaluation and emotional support.

The OST³C is intended to care for patients that were triaged Minimal at the scene, the psychophysiological patient, the non-critical patients who show up at over-crowded hospitals and those who self-refer.

Non-critical patients fit the same description as Minimal, however, hospital personnel do not always triage patients in the same manner as EMS providers. Patients generally fall into other sub-categories such as acute/critical, monitored, and non-critical/fast track. Non-critical patients do not require in-patient hospitalization. Based on the assumption that many patients will leave the scene and arrive at area hospitals seeking care, those patients that hospital personnel deem non-critical may be more appropriately cared for at the OST³C. This is especially true when an excessive number of patients are waiting for care at a hospital.

Patients transported from the incident scene to the OST³C may have received at best an initial triage evaluation but no treatment. Self-referring patients will not have been evaluated at all. It is possible that even though the Center is not intended to receive critical patients, Immediate or Delayed self-referring patients may arrive.

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Most of the patients who arrive at the OST³C may not have been decontaminated. Some patients, especially the elderly, may have refused to remove their clothes or to be wet down at the incident scene. Parents with young children may not have wanted them exposed to environmental elements especially in inclement weather. Therefore, providers will not know if patients are contaminated.

7.2 Unaccompanied Children

It is likely that the OST³C, as well as all health care facilities, will receive unaccompanied children during a disaster. Children may have been separated from their parents at the scene and arrive at the OST³C without them; or families who arrive at the Center may be separated from their children when directed to the detailed decontamination area; or critical patients requiring immediate transfer to a higher level of care may result in unaccompanied children.



Jurisdictions must plan to manage unaccompanied children. One suggestion is to buddy mental health providers with those children that show up unaccompanied. In situations when children may become separated from their parents after they arrive at the Center, jurisdictions may choose to process families according to the family member having the highest triage category to prevent separation. In either case, staff will need to make provisions for managing unaccompanied children, which may include contacting extended family members that can care for the child and watching the children until they are taken home.

7.3 Special Needs Population

Elderly and handicapped patients may also arrive at the OST³C seeking care. These patients can fall into the Minimal or non-critical triage category but have difficulty ambulating at the Center, (e.g., the blind). Staff must take into consideration that the OST³C demands a lot of walking and navigating through the building. Additionally, decontamination areas will be slippery and staff may be needed to physically assist patients. Moreover, jurisdictions may purposefully choose older buildings, which may not be handicapped accessible.

Options may include:

- Staffing the OST³C with additional patient assistant volunteers.
- Re-directing all physically challenged persons to traditional emergency departments.
- Setting up OST³Cs in handicapped accessible buildings.
- Making existing buildings more handicapped accessible with portable wheelchair ramps and portable outside showers.

8.0 Tracking

8.1 Patient Tracking

Most factors that influence patient tracking at the OST³C are similar to what a jurisdiction would confront for other mass casualty incidents (MCI). There are a few issues, however, that may likely present during a chemical terrorist incident (as well as at the OST³C) that would not necessarily present during other MCIs.

One critical factor to consider when tracking patients is that a terrorist incident can create an excessive number of patients. To triage 500 patients in the same manner that EMS would triage 50 patients may be too time consuming and ill effective. If it takes approximately 30-60 seconds to triage each patient (using the START Triage method) and track them by a roster, it would take over four hours to triage 500 patients. Jurisdictions may need to use other methods of collecting triage data. Howard County Fire and Rescue Services in Maryland is experimenting using a tape recorder to expedite the process. Minimal casualties speak and spell their name into a tape recorder which cuts the time spent per person down to approximately 15 seconds.

Patients that are processed at the OST³C must be tracked and their medical status/evaluation documented. Some jurisdictions may choose to begin patient tracking after patients have undergone decontamination and treatment, leaving all data collection until the end of the process. Other jurisdictions may determine that they must capture only a name and a triage tag number/identifier, at the beginning of the process (e.g., during initial triage). If patients leave the Center before they have completed the process, then a more accurate list of who arrived at the OST³C is available. Overall, patients that arrive at the OST³C may have been waiting and thus will want to be treated right away. Patients may no longer tolerate the “system” when paperwork hinders their ability to obtain treatment.

Tracking methods may include the use of a triage tag or medical chart number. Jurisdictions should implement tracking systems that they are accustomed to using or systems that can compile large quantities of data. If jurisdictions use triage tags and triage tag numbers as unique patient identifiers, then these tags must be waterproof. Some jurisdictions may redesign their entire tag while other jurisdictions may simply place a non-waterproof triage tag into a plastic zip-lock bag and attach it to patients via a plastic bracelet.

Some jurisdictions may refrain from using a triage tag at all unless the patient is serious enough for ambulance transport. The majority of patients who will arrive at the OST³C will arrive walking and thus can be easily identified as Minimal. Those having difficulty will be more obvious in a crowd of walking patients, and should be officially triaged by standard practice.

8.2 Tracking Patient Belongings

Each jurisdiction should develop a mechanism for tracking patients' personal belongings. As patients prepare for gross decontamination by removing their clothing, their personal items should be separated as durable or non-durable. Some examples are as follows:

Durable

Keys
Cell phones
Electronic devices
Purses/wallets

Non-durable

Clothes
Shoes and socks
Jackets

As the goods are separated, they should be bagged according to the proper category, assigned a tracking number, and tagged with the patients' name. After the tracking process is completed, the items should be retained until law enforcement determines that they are not wanted as evidence. If patients refuse to turn over their belongings, they should report to a police officer to have their items checked for weapons and other paraphernalia before entering the building with their personal items. When the patient is discharged from the Center, the out-processing station can give the patient instructions about cleaning their goods.

In some communities, the authorities may never intend to return non-durable items to the owner. Although it may seem futile for staff to bag and tag non-durable items, there may be evidence in the collected goods.

If a jurisdiction plans to return items, durable or non-durable, then those items must be cleaned before they are given to the respective owner.

8.3 Patient Charting

For those patients that are brought to the treatment area, the OST³C must officially document the patient's medical status and collect patient demographic data. Jurisdictions may determine to start official patient charting earlier but the IRP suggests that it begin at the second triage area. As patients are re-triaged and directed toward the appropriate treatment area, Minimal patients could start to fill out the demographic portion of their chart should they need to wait for an available health care provider. Patients that have conditions that are more serious would not be expected to fill out their own chart, and medical personnel should try to capture this information particularly if the patient is transferred to a higher level of care.

The chart will be completed at the out-processing station. Any information that patients or staff were unable to obtain, personnel at this area can fill in while patients review their discharge papers.

Jurisdictions should consider a charting method that they are already accustomed to using. If the charting methods are not practical or applicable for use at the OST³C then

jurisdictions should consider implementing a charting system that can already compile the necessary data.

9.0 Critical Functions Within The OST³C

Jurisdictions should design their own patient flow at the OST³C. Each location may require a slightly different approach or have different priorities when allocating resources. Each building that emergency planners identify may present particular challenges, such as narrow corridors, or doorways, and stairs that do not allow stretchers or wheelchairs to pass easily. Additionally, inclement weather may influence whether or not a jurisdiction establishes an outside gross decontamination function. *(See Annex D for a general patient flow diagram that incorporates the critical functions outlined in this section.)*

The following section delineates and describes the critical aspects of an OST³C. Each jurisdiction should consider these critical functions when planning their version or application of the OST³C concept. The OST³C, by design, is meant to be modular and flexible, leaving the jurisdiction to determine when and where functions should occur and if they are applicable. *(See Annex C for a description of the following critical functions and the associated skill sets required to perform the function.)*

9.1 Perimeter Security

Due to the nature of the incident the alternative health care center may require a full compliment of security efforts. Terrorists may want to target large groups of citizens and emergency workers. Those with knowledge of a community's response plan may see the Center as an ideal secondary target. Perimeter security is needed to maintain order, deter criminal acts, and provide for the safety of the public.



Those providing perimeter security become gatekeepers to the Center. Security will need to ensure that only authorized and properly credentialed staff enters the facility grounds. All entrances should be locked or have security in place to control entry into the building. Security should establish separate entrances for victims and staff. Signs should be posted directing them to their respective entrance.

It will also be difficult for officers to differentiate between patients and others wanting to enter the OST³C. Officers are inclined to decrease their level of suspicion when patients convey an acute medical condition, making it difficult to distinguish between those who are really patients and those whose presence is counterproductive to the operations of the Center. Jurisdictions should create a system that helps security personnel identify staff and patients.

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Jurisdictions should also determine if law enforcement agencies are needed to check patient belonging bags for dangerous items (e.g. weapons), when patients refuse to relinquish personal items.

Perimeter security efforts also include directing traffic and controlling traffic patterns. Though most of the OST³C's patients will arrive by bus and/or ambulance from the scene, many citizens may arrive in their private vehicles, taxis, public buses, or foot. Officers must determine ambulance and bus drop off points, and private citizen vehicle parking.

Persons who arrive in their own vehicles may have unknowingly cross-contaminated their vehicles. Jurisdictions must determine if they are going to release contaminated vehicles or if they will be quarantined. Security personnel may need to direct these citizens where to park and then watch over the vehicles so that citizens do not re-enter them. Security may have difficulty with persons who refuse to allow their vehicles to be quarantined. Should security be faced with such a situation, they should strongly direct patients to drive away from the Center without disrupting those who are entering and those who are exiting.

Once patients leave the Center they should not be allowed to re-enter. Patients should be directed away from the Center to avoid re-contamination.

The number of security officers needed, at the OST³C, will depend on the size of the facility/surrounding grounds and the number of functions they are assigned. Local law enforcement should primarily provide perimeter security but other agencies may be able to support their efforts. School crossing guards, private security agencies, traffic controllers for stadium/concert events, and the Department of Public Works may be able to provide barricades, cones, directional signs, and personnel to supplement traffic control efforts.

Personnel who may come into contact with contaminated patients should wear Level C personal protective equipment (PPE). Personnel should pay particular attention to wearing butyl rubber gloves instead of latex, given that chemical agents can penetrate the latter.

The IRP recommends that an OST³C establish two or three security checkpoints. Placing officers at the entry point to the grounds and before patients enter the building ensures more control and helps to maintain order. Multiple checkpoints may also make it easier for security personnel to recognize perpetrators posing as patients.

9.2 Initial Triage/Registration

Jurisdictions must determine the method of triaging patients and how to track patients as they arrive at the Center. Plans should consider the best method for categorizing patients, but some form of initial categorization should take place as patients enter the Center.

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Although the OST³C is designed to treat Minimal patients, it is possible that some patients may deteriorate medically during their transfer to the Center. Self-referring patients may show up in a critical state. Jurisdictions should determine if Immediate or Delayed patients should undergo a gross decontamination and be immediately transferred by ambulance to a traditional hospital emergency department. If no transportation is immediately available, then these patients should undergo a gross decontamination and wait in the treatment area until transport is available. (*See Annex E for A Mass Casualty Decontamination Algorithm.*)

Plans should include how to handle patients that have difficulty ambulating. It is possible that some patients triaged Minimal are not incapacitated from the chemical exposure but just need physical assistance. Those staffing this area may need wheel chairs or assistants to help patients get from one location to another.

Pre-hospital care providers should perform initial triage as they are accustomed to triage tag use, and categorizing patients into groups. Those performing initial triage must wear Level C PPE. Providers should pay particular attention to wearing butyl rubber gloves instead of latex, given that chemical agents can penetrate the latter.

If jurisdictions plan to supply an antidote cache at the OST³C, the initial triage area is an ideal location for the medication. Patients arriving as Immediate or Delayed would benefit from the medication and could be stabilized before undergoing a gross decontamination. Additionally, it is more likely that staff in the Warm Zone will suffer from cross-contamination than staff stationed in the Cold Zone. Thus, if the antidote is strategically located at the initial triage area then both patients and staff would benefit.

9.3 Gross Decontamination

Not all the patients that arrive at the OST³C will have undergone a gross decontamination. Avoiding contamination is important. A gross decontamination station outside the building will prevent most of the contamination from entering the building. Jurisdictions will need to determine if a gross decontamination station is necessary providing that patients can enter a building and obtain a detailed decontamination inside.

Some planning considerations for determining whether or not to have a gross decontamination station include:

- Gross decontamination significantly reduces chances of cross-contaminating the building, those staffing the detailed shower area, ambulance personnel, and vehicles used to transport patients.
- Personnel have access to immediate decontamination if they become cross-contaminated in the Warm Zone.
- A gross decontamination does not need to be used on all patients but can be used for critical patients, patients that have difficulty ambulating, and for staff who become cross-contaminated.



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- If a gross decontamination station is established for all patients who have not undergone a gross decontamination previously, then it may be easier to have all patients proceed through gross decontamination versus creating an additional category of patients (e.g., Minimal with a gross decontamination and Minimal without a gross decontamination).
- If gross decontamination is required for all patients, then the registration/patient belonging process that has been previously described may be more suitably performed right before patients undergo gross decontamination.

Jurisdictions can choose to develop the gross decontamination aspect to the OST³C as elaborately as their resources allow. If jurisdictions choose to set up a gross decontamination station, then they should consider the IRP's *Guidelines for Mass Casualty Decontamination During A Terrorist Chemical Agent Incident* as the minimum standard. It indicates that high volumes of water such as that provided by a low-pressure fire hose are essential to providing adequate decontamination. Those performing gross decontamination should follow standard decontamination guidelines and not simply seek to equip this area with garden hoses and/or untrained personnel.

As with any decontamination line, patient privacy is a major concern. Jurisdictions may not have the resources to set up privacy screens as they have limited resources to provide even the most basic decontamination line. Without some privacy it is likely that patients will not be willing to disrobe in full or in part.

The IRP recommends that gross decontamination should consist of patients disrobing down to their undergarments, bagging and tagging their belongings and placing them in 55-gallon drums or similar containers for safe handling (*See Section 8.2 Tracking Patient Belongings for more details regarding this function*). Then patients should proceed through the decontamination line. Immediate and Delayed patients should proceed through the line before triaged Minimal patients. At the end of the decontamination, personnel should provide patients with a form of bodily cover that allows patients to remove their undergarments. A trash bag that has been altered with holes for their head and arms is the simplest form of cover. By placing the head through the plastic bag, patients can remove their undergarments with some modesty intact, and then put their arms through the side holes before proceeding into the building for a detailed decontamination.

**IRP Guidelines pertaining to chemical agent removal states:
Large volumes of water provided by a low-pressure fire hose are essential to providing adequate gross decontamination.**

The gross decontamination aspect should be operated by an agency familiar with HAZMAT operations and mass casualty decontamination efforts. Typically, each state has a department of the environment capable of supporting decontamination efforts. Other states have HAZMAT type industries that staff decontamination teams who could support a decontamination effort in a disaster. Some jurisdictions have a small contingent of HAZMAT decontamination specialists as part of their department of public

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works. Jurisdictions should choose an agency that would not typically be used at the actual incident site to perform decontamination at the OST³C.

9.4 Internal Security

The OST³C must be supported by internal security efforts in order to maintain control and foster patient flow through the Center. Patients may become unruly and disruptive if they have to wait in long lines, are unwilling to shower in the detailed decontamination shower, or are unable to locate other family members. It is also possible that those who perpetrated the terrorist incident may present as patients seeking care or it is possible that others responsible for criminal acts will be among the patient population. It may be necessary to establish a detention area for those persons who become particularly disruptive. Simply providing a police presence may deter certain troublesome acts.

Internal security shares many responsibilities that external perimeter security provides, such as performing sweeps for secondary devices, or barricading those portions of the building that are off limits; but they must perform these duties within the confines of the internal building in order to prevent cross-contamination.

Internal security must help patients avoid unintentionally re-contaminating themselves. Once patients leave the Center they should not be allowed to re-enter and should be directed away from the Warm Zone of the Center.

Officers stationed at patient entranceways should wear Level C PPE to avoid cross contamination.

9.5 Detailed Decontamination / Re-Dress

The two major purposes of the OST³C are to ensure that all patients from a chemical incident receive a complete and thorough decontamination as well as medical screening and treatment. All personnel entering the OST³C system should undergo a thorough decontamination.

The detailed decontamination provides the following aspects of decontamination that are otherwise not available:

- A segregated decontamination area for males and females that provides semi-privacy.
- An enclosed decontamination area away from the elements that also provides semi-privacy (group shower).
- Removal of all remaining clothing worn at the incident scene.
- Decontamination using soap.
- Warm water shower that will help reduce the possible effects of hypothermia associated with outside cold-water decontamination.
- Cool water shower that will help reduce heat stress associated with environmental conditions or wearing PPE apparel.

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OST³C personnel should monitor patients as they undergo detailed decontamination to control patient movement and prevent a bottleneck. Patients should disrobe quickly, spend no more than five minutes in the shower, and then quickly re-dress. Some patients may be inclined to spend more time showering, as they may believe that a short shower will not free them from contamination causing a backup in patient flow. Once patients are thoroughly decontaminated they will enter the Cold Zone portion of the Center and re-dress in paper scrub outfits or similar clothing.

Provisions must be made for patients who have difficulty ambulating. Showers are particularly hazardous since they are slippery when wet.

Showers are generally not designed to prevent cross-contamination. Often patients must cross locker rooms to get to the showers and then cross the locker room to exit the area. A jurisdiction may need to assign staff to the shower area to direct patients coming in and going out the same doorway to prevent cross-contamination. Depending on the layout of the facility, privacy screens could be used to segregate hallways off for either the disrobing or redress area.

Jurisdictions must provide patients with some type of body cover before they proceed through the Center. Paper scrub outfits, hospital scrub outfits, clothing from consignment/second hand stores or churches, or Tyvek® suits are just a few options. Jurisdictions should also consider providing space blankets and foot covers.

The following critical functions make up the OST³C: perimeter security, initial triage, gross decontamination, detailed shower decontamination/redress, re-triage, treatment, transportation to a higher level of care, patient discharge, general assistance, and internal security.

9.6 Re-Triage

A critical aspect to caring for patients is that they must continually be re-assessed until they have been thoroughly evaluated and treated. Patients exposed to chemical agents may develop delayed symptomatology. All personnel should be mindful of watching for patients who have deteriorated and assist them accordingly.

Once patients have dressed they are ready to have a medical evaluation. Based on how the treatment area is established, staff members should direct patients to the most appropriate treatment location. Re-triaging patients should not take an extensive amount of time but it is a necessary function. Also it is likely that patients will be confused as to where to go next, thus re-triaging patients while simultaneously directing them to a treatment area may help prevent bottlenecks from developing.

Staff must use a formal triage method to assess casualties to determine which treatment area is best. The IRP recommends that jurisdictions use the START Triage system (*See Annex F*) and sort casualties into one of the following four categories:

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- ❑ **Immediate** - those who need to be admitted to a hospital following initial treatment and stabilization. These patients will have the highest priority for transportation to a hospital. Patients who fit this category should be brought to the Immediate Treatment Area.
- ❑ **Delayed** - those who require limited medical intervention for stabilization. These patients may eventually be admitted to a hospital or discharged following temporary medical observation. These patients should be brought to the Delayed Treatment Area.
- ❑ **Minimal** - those who require a general assessment. These patients should be directed to the Minimal Treatment Area.
- ❑ **Deceased** - those patients that arrive deceased or die at the OST³C. They will be placed in the temporary morgue.

As patients are triaged and directed to the appropriate location, personnel should hand them a clean, pre-arranged medical chart and pen. One time saving practice is for patients to fill out the demographic portion of their medical chart if they are able and if they must wait for any length of time.

9.7 Treatment

The OST³C must evaluate and treat patients who arrive at the Center. Staff should transfer patients that have more critical conditions than the OST³C can treat, to traditional hospital emergency departments.

Treatment at the OST³C is based on what each jurisdiction is able to provide at the Center. At a minimum, the OST³C should provide basic life support (BLS) and if jurisdictions have a small contingent of advanced life support staff and equipment then a sub-area within the treatment area should be made available.

Jurisdictions should consider arranging their treatment area based on the triage categories. For example, if staff use typical EMS triage practices and triage tags then they would name the treatment sections Immediate, Delayed, and Minimal. If they only categorize patients into critical and non-critical then treatment area subdivisions should be named accordingly. Despite categorizing the treatment area, all treatment should take place in the same general area if possible so that stations can share staff and resources. The IRP recommends that jurisdictions use the START Triage method and subsequently use the three corresponding treatment sub-areas.

Comprehensive patient documentation begins when patients arrive in the treatment area. Staff must complete the medical portion of the chart for all patients and the demographic portion of the chart if patients are transferred from the facility.

The treatment area should be set up similarly as to how the jurisdiction will re-triage patients.

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An Immediate Treatment Area will care for critical patients that need a more extensive evaluation and who have a potentially life threatening status. Critical patients must have beds/stretchers on which to lie. Personnel with a minimum of Advanced Cardiac Life Support (ACLS) certification ability should staff this area. Staff should stock each bed with ACLS equipment and medication (*See Annex G for an antidote and medication list for advanced medical providers to administer*). The medical director should specifically provide oversight for these patients. This area is meant to stabilize patients only and arrange for their transport to a higher level of care. Staff will collect patient demographic information, which would normally be captured at an out-processing area. Immediate patients waiting for transport should not be moved to the holding area, as their medical condition is too unpredictable and requires more extensive observation.

Delayed patients will need a more in-depth, subjective cardiac and respiratory evaluation. A Delayed area should also have beds/stretchers and be able to handle more patients than the Immediate area but not as many as the area for Minimal casualties. Ideally, it should have EKG monitors, respiratory flow meters, oxygen, and access to a minimal supply of medication. Optimally, those staffing this area should know how to perform advanced life support (ALS).



A Minimal area should use tables and chairs and be capable of processing 12 or more patients at one time. Staff may include nurses, medical students, and pre-hospital care providers. Emergency Medical Technicians (EMTs) and paramedics are particularly good at performing quick and in-depth subjective patient assessments without relying on a patient chart as a prompt.

Patient treatment will be based on the following findings:

- Method of agent exposure (vapor or liquid).
- Symptomatology.
- Vital signs.
- Pertinent medical conditions that may be exacerbated by the chemical agent exposure.
- Medications and medical allergies.

The lead agency must provide caregivers chemical agent guidelines that contain the following information for each type of chemical exposure:

- A fact sheet on the agent including antidote.
- Pertinent medical conditions that are complicated by the agent exposure.
- Actual treatment modalities to include basic life support and advanced life support procedures, and hospital provider treatment.

The treatment area should include a holding area for those patients waiting to be transferred. The holding area should be staffed with personnel who can stay with patients and observe them for any deterioration in their medical status. Generally, a 7:1 ratio of

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patients to health care providers will be adequate. Staff should gather all demographic information that would normally be collected during patient out-processing, prior to patient transfer.

All Minimal patients that do not need to be transferred to an outlying hospital will continue through the OST³C process.

When specific areas are under used, the IRP recommends that personnel in lead roles/chiefs redistribute staff from slow treatment areas to help in the Minimal or holding areas. Typically the area for critical patients will not be busy if ambulance transport is readily available. Minimal patients however, should not be brought to other areas; instead staff should re-locate to the Minimal area and provide support.

****Special Considerations*

Patient treatment will include more than just physically evaluating casualties. Patients may suffer from severe mental distress after having been a victim of a terrorist incident. The incident may exacerbate any underlying mental illness. The medical director, in addition to mental health support personnel, should be prepared to medically sedate, treat, provide emotional support, and/or transfer these patients to facilities capable of evaluating their condition.

Another special consideration is implementing tele-medicine interlinks at the OST³C to support patient treatment. This link may be helpful when physicians are not available to staff the Center directly.

9.8 Out-Processing

Once patients have been decontaminated and received treatment, they are ready to be discharged. Staff should obtain patient demographic/tracking data, and then officially discharge patients from the Center.

This information should include as a minimum:

- Patient identification number/medical chart number/triage tag number.
- Name.
- Date of birth.
- Address.
- Phone number.
- Emergency point of contact.
- Social security number.

The discharge process should include as a minimum:

- Staff specifies that the patient could have been exposed to a particular agent.
- Staff informs the patient of signs and symptoms that warrant them re-entering the medical system.
- Staff informs the patients how to re-access care if they become symptomatic at a later time.

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- Staff provides the patient written self-care instructions.
- Staff obtains patient's signature, which specifies that the patient is being discharged from the Center, and then staff enters the date and time of discharge.

Patients may make inquiries regarding transportation home, how to find other family members, how to best obtain medication re-fills to replace contaminated medication bottles, etc. Staff out-processing patients should direct patients, with these types of inquiries, to the general assistance area.

Jurisdictions should gather patient demographic data with information systems that can compile large quantities of data. Palm pilots, lap top computers, bar code readers, bubble dot forms, are just a few types of systems that can facilitate information gathering.

Additionally, out-processing patients requires a controlled and quiet atmosphere. Patients may need a semi-private setting before they feel comfortable asking questions or relinquishing personal demographic information.

9.9 General Assistance

After the staff has officially discharged patients from the Center, patients may still need some basic assistance before they are ready to leave. The jurisdiction should consider the following aspects in addition to providing patients a means of getting home:

- A collection point where patients can gather before they are transferred home or to a Reunification Center.
- A location where family members can reunite.
- A rest point where patients can sit and for the first time rest.
- A family assistance desk where patients can talk to someone regarding individual concerns and gather information.
- A place where patients can make a phone call.
- The ability to obtain mental health support.
- A location where patients can get more appropriate clothing, other than a paper scrub outfit, if it was not provided earlier in the process.



All patients will need transportation home. Patients, who drove themselves while they were contaminated, cannot re-enter the same vehicle until the lead agency declares it free of contamination. Other patients who arrived via bus left their vehicles at the incident site. Jurisdictions should plan to transfer all citizens from the OST³C either home or to a Reunification Center.

Jurisdictions should make arrangements with the local phone company to set up a mobile phone bank (out-going calls only) at the OST³C. Patients will want to inform relatives that they are okay and where they can be picked up.

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The IRP recommends that a jurisdiction staff pre-hospital care providers in the general assistance area. It is possible that a patient's medical status may deteriorate and require more medical assistance.

Jurisdictions should plan to provide some general assistance for patients since they will have no way of getting home and will only be wearing what the facility has provided them.

Some type of family assistance desk or help desk that can assist patients with special needs should be co-located where patients are waiting to be transferred to the Reunification Center or home. Mental health support personnel should staff this desk, as they can interact with patients in a non-threatening manner and begin to engage in “defusing” types of conversations when handing out information packets. Information should include explaining when and how a patient can re-enter the health care system, and phone numbers for hotline/help-line crisis intervention.

9.10 Reunification Center

When an incident is so large that it requires the use of an OST³C, jurisdictions should consider standing up a Reunification Center, at a separate location, to support the OST³C as well as the entire incident. Family members need a location where they can meet up with their loved ones or obtain information regarding their location and status. The OST³C may be unable to arrange each individual's ride home but can make sure that all patients get to a Reunification Center. The Reunification Center can become an information hub that collates the status and location of all casualties, and creates a list of missing persons.

Depending on the number and type of functions jurisdictions want the Reunification Center to handle, emergency planners may request the American Red Cross (ARC) to establish it. Typically, the ARC establishes mass care shelters to support individuals displaced from their homes for an extended period due to a catastrophic events. However, the ARC is accustomed to providing lodging, food, clothing vouchers, and emotional support and may be the best agency to initiate a Reunification Center. Jurisdictions should incorporate their ARC Chapter in their OST³C planning and ask them in what way they are willing to support mitigating the consequences of a chemical WMD attack.

9.11 Transportation

The OST³C is not designed to provide care equal to that of an emergency department, consequently patients requiring a higher level of care should be immediately transferred to a traditional hospital.

The OST³C should have dedicated ambulances to perform patient transfers. It may be difficult for 911



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units to provide this service because they will most likely be fully engaged responding to or supporting mutual aid efforts surrounding the incident scene. Jurisdictions may need to use commercial and/or volunteer units.

As patients are sent from the scene to nearby hospitals, the OST³C Transportation Officer must send patients to hospital emergency departments that are not overwhelmed. These hospitals may be over 45 minutes away thereby slowing ambulance turn-around time. When the Emergency Medical System (EMS) is unable to accommodate transferring patients via routine methods, the Transportation Officer should seek to use alternate methods of patient transport to avoid mass numbers of patients waiting to be transferred. Jurisdictions need to decide acceptable means of patient transportation during disaster situations but some options may include loading two patients in each available ambulance, or potentially staffing two medical providers on a mini-bus with four to six mildly symptomatic patients.

It is possible that there will be more patient transfers than originally anticipated, particularly if the medical staff is instructed to cautiously evaluate patients.

The OST³C transportation component must also provide a means of getting patients home or to a Reunification Center. Jurisdictions may develop MOUs with private transportation agencies, or the public mass transit to support this effort.

9.12 Temporary Morgue

It is possible that patients will die at the OST³C or will arrive pulseless and apneic. The OST³C will need to make provisions for the deceased. These provisions may include using a refrigerated truck as a temporary morgue, arranging local law enforcement to secure the temporary morgue, maintaining a chain of custody, and filling out specific paperwork. Other procedures should include a physician signing the death certificate, staff documenting the time of death, and staff reporting the death to the lead investigating agency and medical examiner.

Any death that occurs during the same period as the terrorist incident may be case evidence. Jurisdictions should request the input of the medical examiner/coroner as to the best way to handle remains and to preserve evidence.

10.0 Enhanced Capabilities

The following are not critical functions of the OST³C, however they do support specific community concerns. Each jurisdiction may choose to implement the following aspects as well as any other function that lends to caring and comforting the community and/or supporting other facets of the incident.

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10.1 Law Enforcement Investigation

The OST³C will become a key location for managing casualties from a terrorist incident. It, therefore, lends itself to being an ideal location for law enforcement investigators to interview patients that may be witnesses or have pertinent information regarding the crime.

Gathering information regarding the incident certainly supports the community at large but investigating the crime is not the primary mission of the OST³C. If a jurisdiction determines that the OST³C should include law enforcement investigations then it should take place after patients have been out-processed from the Center. Patient care should not be jeopardized for investigation activities.



Investigators must determine where they can best interview patients and how to determine which patients should be interviewed. Investigators may decide to station an officer, where patients are out-processed, who can ask patients if they have any knowledge regarding the chemical terrorist incident. Depending on the number of citizens that state they have some knowledge of the incident and how quickly detectives are able to interview citizens, the officer may need to prioritize which citizens are interviewed first. If the line to interview citizens is long, then the officer may start to gather some preliminary information, such as name, address, and phone number, allowing detectives to interview only those who present with the most relevant information, at the OST³C.

Another suggestion is that law enforcement can provide out-processing personnel with red flag questions, which they can ask patients after completing the patient chart. If a patient responds, “yes” to any of the questions then they should be directed to the investigation area. Samples of these types of questions are listed below; however investigators should provide the actual questions based on the current incident.

- Did you see/hear anything unusual?
- Did you take any photos or videos?
- Did anyone ask you to bring or carry anything into the event?

Law enforcement investigations should take place in an office or small room. Investigators require a quiet and controlled setting to perform their interview and discuss pertinent information to the case. Once the interview has ended, investigators can direct patients to the general assistance area.

10.2 Victim Assistance

Due to the terrorist nature of the incident, patients are prone to stress and anxiety that can affect their emotional well being as well as their physical state. Some patients may become distraught to the point that they can no longer process information, interpret directions, or understand where to go and what to do next. The IRP recommends that jurisdictions provide mental health counselors who can “buddy” with patients, who are mentally distraught and require assistance, in the Cold Zone of the Center.

Other recommendations include providing mental health counselors who can rove the general assistance area looking for patients that are distraught or unable to care for themselves. They should engage in “defusing” types of conversations, help them when possible, and arrange for further intervention with an outside agency where applicable.

Jurisdictions may also choose to organize an official briefing for patients that address the following:

- Announcements pertaining to the incident and what is officially known.
- The whereabouts of family members who have been transported from the Center.
- Hotline phone numbers and crisis intervention numbers.
- Information regarding the chemical agent exposure and when a patient’s medical status warrants re-entering the health care system.
- A location or phone number that patients can obtain critical incident stress debriefing counseling or mental health support.
- Critical Incident Stress Defusing that specifies what happened, what symptoms victims may experience in the next few days that are a normal response to stress, and what significant signs of stress warrant psychological intervention. If a jurisdiction provides a defusing for citizens, they should consider implementing the International Critical Incident Stress Foundation (ICISF) model.

Each jurisdiction will determine what enhanced capabilities their OST³C will have.

10.3 Pet Management

It is possible that some people will bring their pets to the OST³C expecting personnel to help them. It may be beneficial for jurisdictions to establish some elementary form of decontamination and pet care at the OST³C, particularly if they think that citizens will become unwilling to go through the Center unless their pet is taken care of. Jurisdictions should look to Animal Control or local veterinarians to supply portable kennels, staff, and equipment to temporarily care for animals at the Center. The following principles should be kept in mind when incorporating pet management into the plan:



- Animal drop-off point.
- How to identify animals with their owner.

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- Animal decontamination efforts.
- Medical evaluation/treatment regimens.
- Holding animals when an owner has been transferred to a hospital.
- Animal retrieval procedures that prevent re-contamination.
- Handling Seeing Eye Dogs and other specialty dogs to include: if these animals need a more extensive evaluation, if they should be separated from their owner, etc.
- Food and water (depending on the length of time animals are held in kennels).
- Location of kennels with regards to inclement or extreme weather, i.e., placing kennels in shade when temperatures are hot.
- MOUs with pet product distributors/stores for supplies not normally supplied by the local animal control department.

The following issues should be kept in mind when establishing a plan to decontaminate animals:

- Animal handlers should wear the same level of PPE that is required for others in the Warm Zone.
- The method of decontamination may be as simple as spraying animals with water for five minutes or it may be agent and/or animal specific.
- Decontamination efforts should supersede treatment efforts just as in adult treatment because decontamination is treatment when an animal is exposed to a chemical agent.
- Decontamination efforts should have a specific Warm Zone and Cold Zone.

11.0 Site Shutdown

Once all patients have been absorbed into the health care system the OST³C Commander must request permission from the Incident Commander to “stand down” the facility.

- The lead agency should contact the medical examiner to transfer the temporary morgue to his supervision.
- Remove all hazardous waste.
- Arrange to have all durable items that citizens relinquished, to include their vehicles, decontaminated.
- Return all durable items.
- Contact the lead investigating agency regarding the final disposition of contaminated non-durable clothing items, as they may be evidence or may provide investigators information regarding the case.
- Arrange for the Environmental Protection Agency to test for residual contamination before the building is returned to its former utility.

The primary medical mission in a chemical weapons disaster is to provide casualty triage, decontamination, treatment, and transportation to definitive health care facilities, without intentionally overwhelming the health care system.

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If contamination is still present and it appears that it will be long lasting, the lead agency, in conjunction with local and state authorities, will make a decision as to the building's long-term viability.

12.0 Conclusion

The OST³C is one tool that a jurisdiction may use when mitigating the affects of a chemical terrorist incident. It is designed to be a flexible, temporary, stand-alone facility that can be replicated when any one Center exceeds its capacity. Multiple OST³Cs can be established throughout the local health care infrastructure. The primary medical mission in a chemical weapons disaster is to provide casualty triage, decontamination, treatment, and transportation to definitive health care facilities, without intentionally overwhelming the health care system. Once victims have been absorbed into the health care system, the OST³C can be disestablished.

Annexes

A. OST³C Organizational Chart

B. Performance Objective Matrix

C. Critical Functions and Required Skill Sets

D. Patient Flow Diagram

E. Mass Casualty Decontamination Algorithm

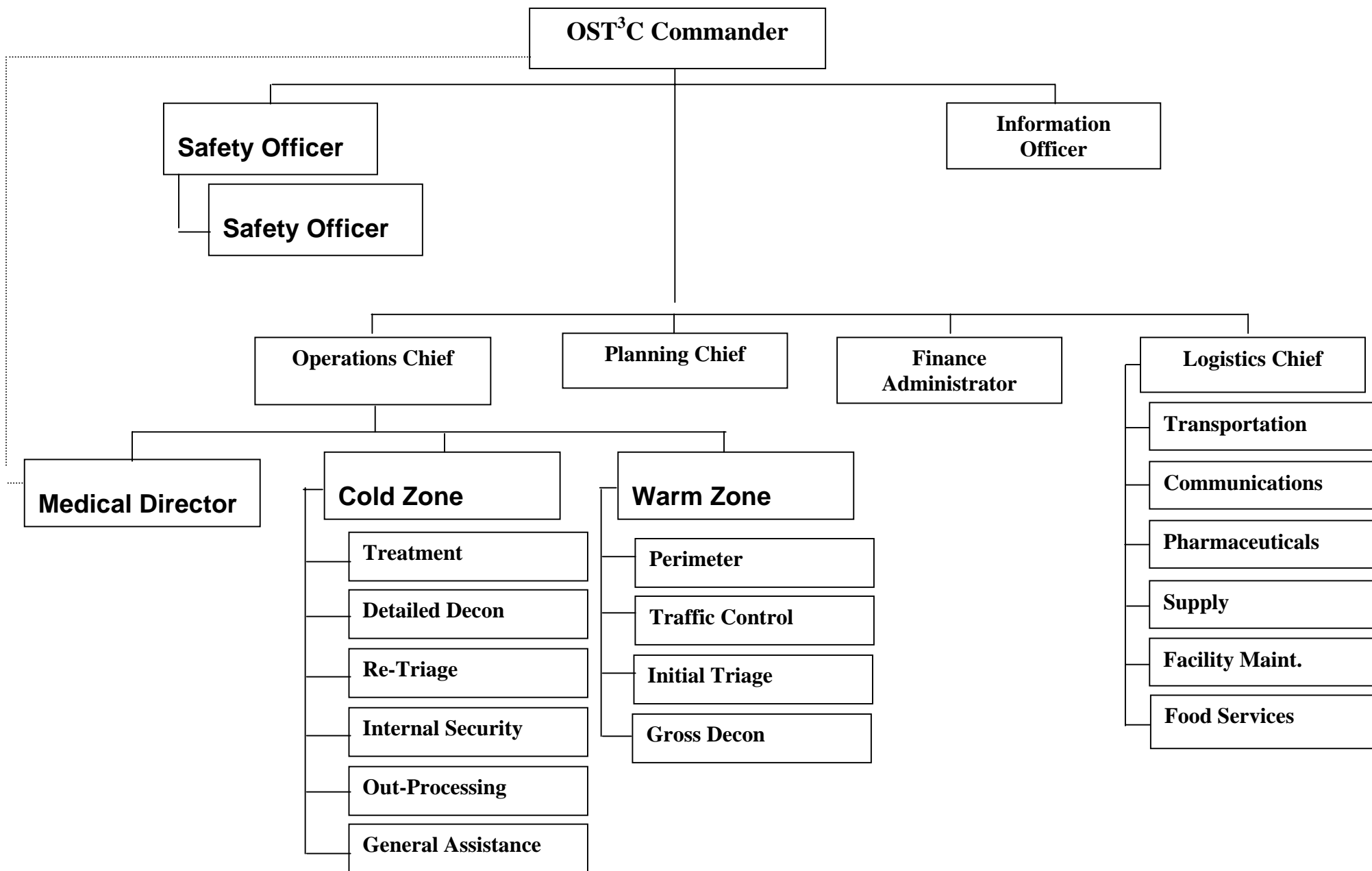
F. Domestic Preparedness EMS Technician Course – Triage Section

G. Antidote and Medication List

H. Acronyms

I. References

ANNEX A- OST³C Organizational Chart



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ANNEX B Performance Objectives Matrix

Performance Requirements						
<i>Legend for requirements: ○ -basic level ● advanced level ◆ specialized</i>						
Competency level		Awareness		Operations	Technician/ Specialist	Incident Command
		Employees	Responders			
Examples		Facility workers, hospital support personnel, janitors, security guards	Initial firefighters, police officers, 911 operators/dispatchers	Incident response teams, EMS, basic HAZMAT personnel on scene	Incident response team specialists, technicians, EMS advanced, and medical specialists	Incident commanders
Areas of Competency	Ref.					
1. Know the potential for terrorist use of NBC weapons: - What nuclear/biological/chemical (NBC) weapons substances are. - Their hazards and risks associated with them. - Likely locations for their use. - The potential outcomes of their use by a terrorist. - Indicators of possible criminal or terrorist activity involving such agents. - Behavior of NBC agents.	C, F, M, m, G	○ ○ ○ ○	● ● ● ● ●	● ● ● ● ● ●	● ◆ ● ● ● ◆	● ● ● ● ● ●
2. Know the indicators, signs, and symptoms for exposure to NBC agents and identify the agents from signs and symptoms, if possible.	C, F, M, m	○	●	●	◆	●
2a. Knowledge of questions to ask caller to elicit critical information regarding an NBC incident.	G, m		● (911 only)			
2b. Recognize unusual trends which may indicate an NBC incident.	G, m		●	●	◆	●
3. Understand relevant NBC response plans and standard operating procedures (SOP) and your role in them.	C, F, M, m	○	●	●	●	●
4. Recognize and communicate the need for additional resources during an NBC incident.	C, m, G	○	●	●	●	●
5. Make proper notification and communicate the NBC hazard.	C, F, M, m	○	●	●	●	●
6. Understand: - NBC agent terms. - NBC toxicology terms.	C, F, m	○	●	● ● (EMS-8 only)	● ●	● ●
7. Individual protection at an NBC incident: - Use self-protection measures. - Properly use assigned NBC protective equipment. - Select and use proper protective equipment.	C, F, M, m	○	●	● ● ●	◆ ◆ ◆	● ● ●
8. Know protective measures and how to initiate actions to protect others and safeguard property in an NBC incident.	F, M	○	●	●	●	●
8a. Know measures of evacuation of personnel in a downwind hazard area for an NBC incident.	M, G		●	●		●

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Performance Requirements						
Legend for requirements: ○ -basic level ● advanced level ◆ specialized						
Competency level		Awareness		Operations	Technician/ Specialist	Incident Command
		Employees	Responders			
9. CB decontamination procedures for self, victims, site/equipment, and mass casualties: - Understand and implement. - Determine.	C, F, M, m	○ self	●	● ●	◆ ◆	● ●
10. Know crime scene and evidence preservation at an NBC incident.	F, M, m	○	● (except 911)	●	●	●
10a. Know procedures and safety precautions for collecting legal evidence at an NBC incident.	F, G, m		●	●	◆	●
11. Know federal and other support infrastructure and how to access in an NBC incident.	C, F, M, m		○ (911 only)	○	●	◆
12. Understand the risks of operating in protective clothing when used at an NBC incident.	C, F, m		○	●	●	●
13. Understand emergency and first aid procedures for exposure to NBC agents and principles of triage.	F, M		○	●	◆	○
14. Know how to perform hazard and risk assessment for NBC agents.	C, F, M, m			●	◆	●
15. Understand termination/all clear procedures for an NBC incident.	C, F, m			●	●	●
16. Incident Command System/Incident Management System - Function within role in an NBC incident. - Implement for an NBC incident.	C, F, M			●	●	◆ ◆
17. Know how to perform NBC contamination control and containment operations, including for fatalities.	C, F, M, m			●	◆	●
17a. Understand procedures and equipment for safe transport of contaminated items.	G, m			●	◆	●
18. Know the classification, detection, identification, and verification of NBC materials using field survey instruments and equipment, and methods for collection of solid, liquid, and gas samples.	C, F, M, m			○	◆	●
19. Know safe patient extraction and NBC antidote administration.	F, m			● (medical only)	◆ (medical only)	○
20. Know patient assessment and emergency medical treatment in an NBC incident.	M, m, G			● (medical only)	◆ (medical only)	
21. Be familiar with NBC related public health and local EMS issues.	G			● (medical only)	● (medical only)	○
22. Know procedures for patient transport following an NBC incident.	F, G			● (medical only)	● (medical only)	○
23. Execute NBC triage and primary care.	G			● (medical only)	◆ (medical)	

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Performance Requirements						
<i>Legend for requirements:</i> ○ -basic level ● advanced level ◆ specialized						
Competency level		Awareness		Operations	Technician/ Specialist	Incident Command
		Employees	Responders			
					only)	
24. Know laboratory identification and diagnosis for biological agents.	G				◆ (medical only)	
25. Have the ability to develop a site safety plan and control plan for an NBC incident.	C, F				◆	◆
26. Have ability to develop an NBC response plan and conduct exercise of response.	G, m					●

Legend for references:

C - 29 CFR 1910.120 (OSHA Hazardous Waste Operations and Emergency response)

M - Macro objectives developed by a training subgroup of the Senior Interagency Coordinating Group

m - Micro objectives developed by U.S. Army Chemical & Biological Defense Command

G - Focus Group workshop

F - NFPA Standard 472 (Professional Competence of Responders to Hazardous Materials Incidents) and/or

NFPA Standard 473 (Competencies for EMS Personnel Responding to Hazardous Materials Incidents)

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ANNEX C
Critical Functions and Required Skill Sets

OST³C Command

- Provide 80-125 patients per hour with detailed decontamination, medical treatment, and general assistance.
- Perform overall command and control for the Center.
- Ensure highest level of efficiency possible given staff and resources.
- Report facility requirements to lead agency to maintain operation.
- Report patient and staffing activity.
- Ensure that staff certifications and licenses have been verified.
- Plan for continual needs of the Center.
- Mitigate operational concerns to ensure mission.
- Provide safe work environment (e.g., prevent cross contamination, mitigate secondary device deployment).

A. OST³C Commander

- Report all activities and needs to the lead agency.
- Assign personnel to Operations, Logistics, Planning, Finance, Safety, and Information.
- Establish a command post and communicate with officers regularly.
- Ensure that the OST³C functions at the highest level of efficiency with given staff and resources.
- Utilize the ICS.

B. Safety Officer

- Survey the site/Center to ensure that people have a safe environment to work in and intercede where necessary.
- Survey the site/Center to ensure that personnel are working in a manner that promotes safety and intercede where necessary.
- Monitor both the Warm Zone and the Cold Zone.
- Evaluate operations based on OSHA Safety Directives and Regulations pertaining to workspace, hazardous materials, PPE, and medical operations.
- Utilize the ICS.

C. Information Officer

- Brief the Incident Commander's Public Information Officer (PIO) about the OST³C's status.
- Direct news media to the PIO to obtain information.
- Provide patients information (e.g., hotline phone numbers for criminal investigation, family assistance).
- Utilize the ICS.

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D. Operations Chief

- Oversee the operation of both the Warm and Cold Zone and facilitate the needs of each sector's Operations Chief. Warm Zone is responsible for perimeter security, traffic control, initial triage/registration, gross decontamination. The Cold Zone is responsible for internal security/detention, detailed decontamination/redress, re-triage, treatment, out-processing, and general assistance.
- Utilize the ICS.

E. Planning Chief

- Become point of contact for all agencies that are requested to support the OST³C.
- Assign each agency a list of critical tasks that they must accomplish.
- Ensure that the mission to decontaminate 80-125 patients per hour is successfully planned.
- Predict future needs of the Center.
- Implement a patient tracking system
- Utilize the ICS.

F. Finance Administrator

- File all reports necessary to obtain local, state, and/or federal relief funds.
- Account for the costs of operating the Center (e.g., staff, supplies, equipment).
- Initiate state and federal reimbursement procedures.
- Become representative for the lead agency.
- Utilize the ICS.

G. Logistics Chief

- Oversee transportation, communications, food services, pharmaceuticals, supplies, and facility maintenance.
- Provide Level C PPE for all persons reporting to the Warm Zone.
- Procure all necessary supplies to include, pharmaceuticals, food, drink, and transportation.
- Utilize the ICS.

H. Medical Director

- Oversee medical aspects of the OST³C.
- Specifically provide medical direction for triage personnel, and treatment personnel.
- Position should be in the uncontaminated portion of the Center but should have direct radio contact with those medical providers in the contaminated portion of the Center.
- Provide input to the OST³C Commander
- Directly report to the Operations Chief.

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Perimeter Security

- Establish and maintain control of the external perimeter of the OST³C.
- Coordinate activities to include sweeps for secondary devices.
- Coordinate security requirements of temporary morgue with investigating law enforcement agencies and chief medical examiner.
- Verify staff identifications.
- Monitor quarantined private citizen vehicles.

Critical Skill Set

- Sworn law enforcement officer.
- Perform duties wearing PPE.

Traffic Control

- Control ingress / egress.
- Direct traffic in and around the OST³C/site.
- Maintain controlled points of entry for reporting staff and patients.
- Establish landing zone, staff parking, patient parking, ambulance staging, and supply delivery area.

Critical Skill Set

- Perform duties wearing PPE if required.

Initial Triage

- Triage all patients who arrive at the Center utilizing the local jurisdiction's method.
- Direct all patients to the gross decontamination area making sure that those who are identified as Immediate (red) or Delayed (yellow) go through the gross decontamination before those who are categorized Minimal (green).
- Obtain assistance for non-ambulatory patients.

Critical Skill Set

- Triage multiple patients.
- Utilize the jurisdiction's triage method.
- Administer antidote treatment to critical patients if medical direction allocates responsibility to providers.
- Perform duties wearing PPE.

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Gross Decontamination

- Perform gross decontamination for victims.
- Decontaminate triaged Immediate or Delayed before any Minimal patients.
- Establish a means for patients to disrobe, and bag, and tag their belongings.
- Provide assistance for those persons who need physical assistance.
- Track personal belongings, to include durable and non-durable items.

Critical Skill Set

- Perform gross decontamination on multiple patients following HAZMAT Operations Guidelines and/or SBCCOM's gross decontamination guidelines.
- Perform duties wearing PPE.
- Enforce order when persons become uncooperative when asked to remove clothing and relinquish personal items.
-

Internal Security

- Assist building evacuation utilizing the building's disaster plan.
- Sweep building and grounds for explosive devices before staff arrive.
- Secure building keys to provide access to necessary areas.
- Post officers at specific areas needing attention.
- Coordinate efforts with law enforcement agency.
- Patrol interior of OST³C to promote order and patient flow.
- Establish a detention/holding area.
- Secure exit points so that as patients leave they are not allowed to re-enter.
- Establish division of labor- staff entry point, contaminated patient entry point, decontamination exit point, roving, detention area, and any location that becomes a holding area.

Critical Skill Set

- Enforce order.

Detailed Decontamination/Redness

- Ensure patients are thoroughly decontaminated.
- Provide assistance for non-ambulatory patients via wheelchairs and volunteers.
- Avoid cross-contamination particularly with regards to entry/exit points into the detailed decontamination area and with the use of wheel chairs.
- Provide bodily cover for patient redress (e.g., clothing, scrub outfits, emergency blankets, foot covers).
- Assist patients who require physical assistance.

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Critical Skill Set

- Mitigate cross contamination.
- Direct patients through a detailed decontamination process and deal with potentially unruly patients.
- Aid patients who have medically deteriorated and require assistance.

Re-Triage

- Re-triage patients into categories that correspond with designated treatment areas.
- Help patients requiring physical assistance.
- Direct patients to appropriate location within the treatment area.
 - Immediate patients are to go to Immediate treatment area.
 - Delayed patients will go to Delayed treatment area.
 - Minimal patients will go to chairs at Minimal treatment area.

Critical Skill Sets

- Perform quick triage.
- Aid those persons requiring physical assistance.

Treatment Area: Immediate Sector

- Treat all Immediate patients that arrive in the treatment area.
- Transfer critical patients to appropriate hospitals via ambulance.
- Stabilize patients.
- Gather patient demographic data on patients who are transferred from the Center.
- Establish direct medical oversight.
- Administer antidote treatment if applicable.

Critical Skill Set

- Medical Director should be board certified in Emergency Medicine.
- Support staff should treat patients according to ACLS protocols.
- Support staff should administer antidote treatment if applicable.

Treatment Area: Delayed Sector

- Treat all Delayed patients that arrive in the Delayed treatment area.
- Transfer critical patients to appropriate hospitals via ambulance.
- Stabilize patients.
- Gather patient demographic data on patients who are transferred from the Center.
- Direct other patients to patient out-processing.
- Assist all patients who require physical assistance.

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Critical Skill Set

- Assess patients as critical or non-critical and determine if they need a higher level of care.
- Evaluate EKG, lung capacity, and blood glucose.
- Treat basic airway concerns to include nebulizer treatments, and oxygen administration.
- Assess basic vital signs.

Treatment Area: Minimal Sector

- Treat all Minimal patients that arrive in the Minimal treatment area.
- Transfer critical patients to appropriate hospitals via ambulance.
- Direct other patients to patient out-processing.
- Assist all patients who require physical assistance.

Critical Skill Set

- Assess patients as critical or non-critical and determine if they need a higher level of care.
- Assess basic vital signs.

Treatment Area: Holding Sector

- Monitor all patients waiting to be transferred.
- Gather any information needed by patient out-processing prior to transport.
- Provide basic medical intervention for those patients who are unstable.

Critical Skill Set

- Assess basic vital signs.
- Recognize critical signs and symptoms that require medical intervention.

Out Processing

- Collect patient demographic information and complete patient medical record.
- Go over patient self-care instructions.
- Discharge patient from the Center.
- Ask law enforcement investigation questions, if applicable.
- Direct appropriate patients to law enforcement investigation if applicable.
- Direct all other patients to a general assistance area.
- Assist patients requiring physical assistance.

Critical Skill Set

- Gather data utilizing the jurisdiction's means of data collection (e.g., palm pilots, computers, written sheets, bubble forms, etc.).

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Law Enforcement Investigation

- Conduct initial interviews of patients.
- Prioritize citizens for interview.
- Direct patients to a general assistance area.
- Share pertinent information with appropriate players to include the lead investigating agency, their own department, and the OST³C Commander.

Critical Skill Set

- Detective or other sworn law enforcement officer.

General Assistance

- Arrange for the special needs of patients who enter the OST³C.
- Organize patient transportation to home or a Reunification Center.
- Observe patients for signs of stress or medical deterioration.
- Provide a phone bank for outgoing calls only.
- Provide area where family members can reunite.
- Provide a means for patients to obtain information regarding the incident and a means for them to ask questions.
- Assist patients with special needs if the jurisdiction is able.
- Allocate a certain number of personnel who can assist patients who are distraught and unable to get through the Center without some emotional support (in the Cold Zone only).
- Assist patients requiring physical assistance.
- Consider providing an official Critical Incident Stress Defusing (CISD), for patients.

Critical Skill Set

- Staff providing medial care should be capable of rendering BLS for those patients who may medically deteriorate.
- Staff providing mental health intervention should be social workers to help those patients who are not able to care for themselves due to significant stress.
- Staff providing CISD should be trained professionals in CISD.

Temporary Morgue

- Provide an area to temporarily store human remains if needed.
- Establish means of securing human remains and notifying appropriate agencies- lead investigating agency, medical examiner, OST³C Commander.

Critical Skill Set

- Ability and authority to maintain a chain of custody.

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Supplies/Resources

- Obtain supplies for the OST³C.
- Deliver supplies to areas within the Warm Zone.
- Restock medications, antidote treatments.
- Obtain equipment that makes the OST³C friendly for those requiring physical assistance (e.g., wheel chairs, stretchers, stair ramp covers, etc.).
- Establish means for maintaining the building.
- Establish a means for backfilling needed supplies.
- Establish a communication system.

Critical Skill Set

- Assign key personnel who can accomplish each duty as previously determined- communications, pharmaceuticals, supplies.
- Contact local suppliers who can back fill resource needs, to include transportation needs, PPE needs, pharmaceutical needs.
- Perform duties wearing PPE if required.

Transportation

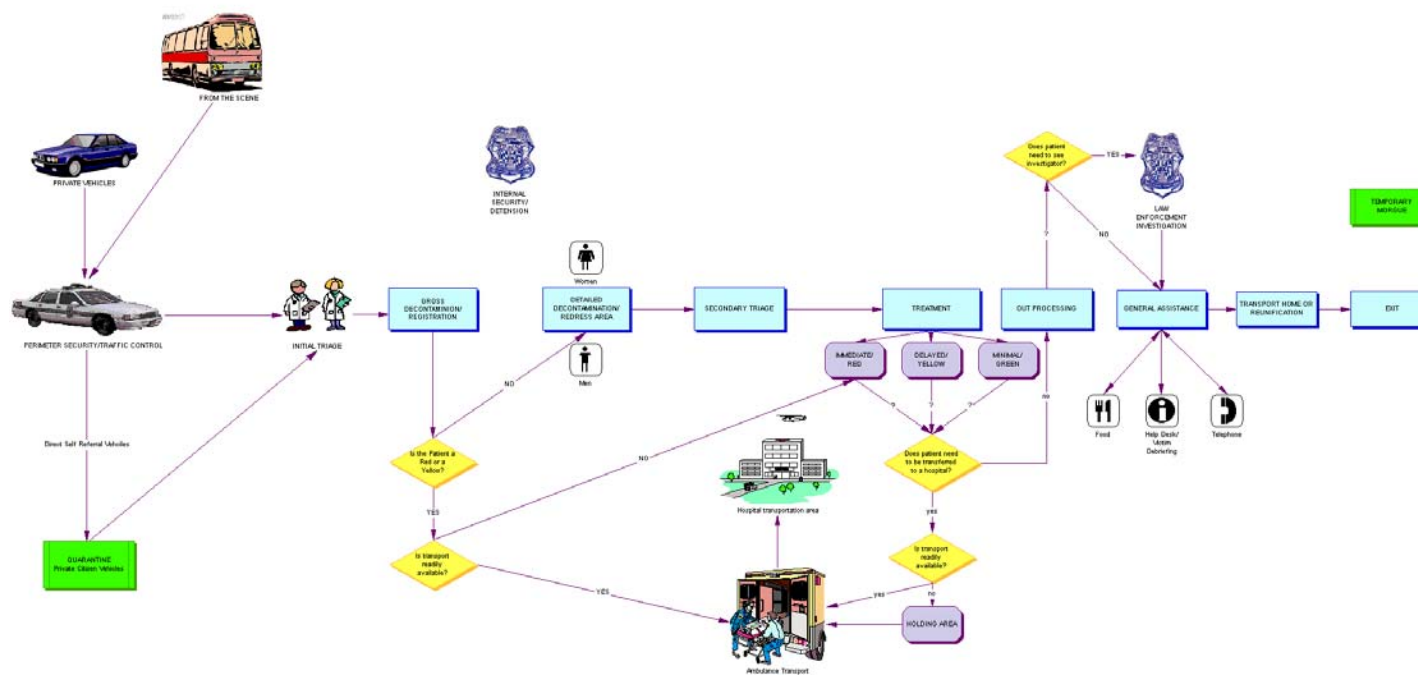
- Responsible for coordinating all transports to hospital facilities.
- Record all bus arrivals from the scene.
- Coordinate hospital availability with Incident Scene Transportation Officer.
- Coordinate transportation to Reunification Center or home.
- Oversee ambulances.
- Oversee para-transit vehicles.

Critical Skill Set

- Utilize multiple ambulance and transportation options.
- Determine capability of area hospitals.
- Interact with the Incident Scene Transportation Officer.

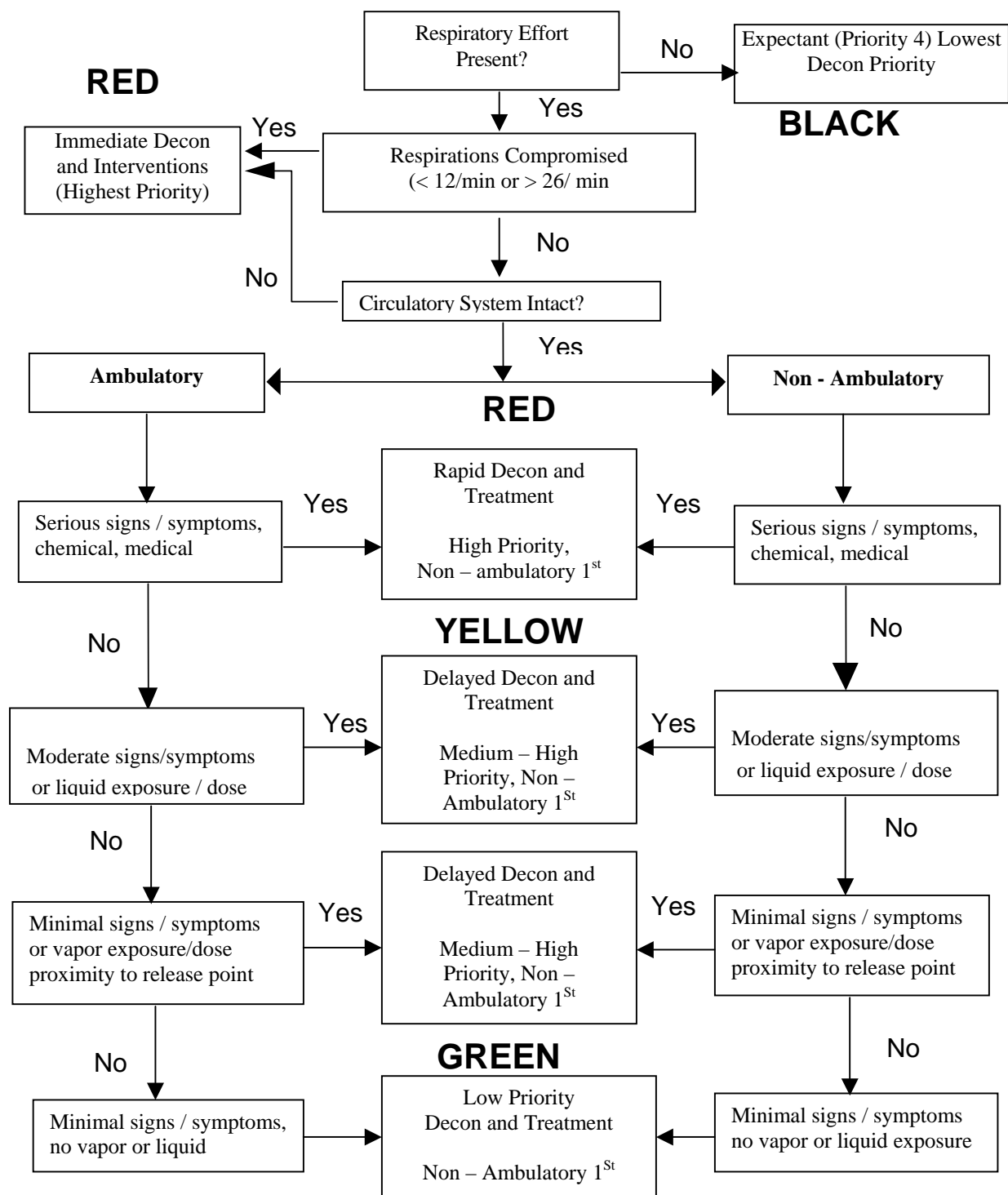


ANNEX D
OST³C Patient Flow Diagram



ANNEX E

Mass Casualty Decontamination Algorithm



Notes: Immediate decontamination may only involve removal of clothing unless victim is grossly contaminated with liquid agent. Once initial triage and/or decontamination prioritization is performed and adequately trained responders are available, ambulatory victims should be placed in a separate collection area and proceed through gross decontamination after more critical patients. It is recommended that all non-ambulatory victims who are exhibiting serious chemical signs and symptoms receive highest priority for decontamination.

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ANNEX F

Domestic Preparedness EMS Technician Course- Triage Section

1. START Triage System

Many jurisdictions across the U.S. are using the Simple Triage and Rapid Treatment (START) system for triage. Individuals with very little medical training can effectively use the system. START merely requires an understanding of basic first aid. Under START, all victims who are able to walk on their own (“walking wounded”) are directed by the first emergency personnel on the scene to a designated area upwind of the hazard area and are labeled as **Minimal** (green tag). This reduces the number of victims to be evaluated. These victims will require supervision and might be detained to obtain further assessment and possible decontamination.

The remaining victims will be evaluated using the START triage system. This should take no longer than 1 minute per patient and will focus on three primary areas:

- Respiratory status
- Perfusion and pulse
- Neurological status

A. Respiratory Status

As the responder moves through each level of assessment, any condition that is deemed **Immediate** (red tag) stops the evaluation process. Life-threatening injuries will be addressed, if necessary, during primary triage. The patient is tagged, and the responder moves on to the next patient.

If the patient is adequately ventilating (breathing), the triage officer moves on to the next step. If however, ventilation is inadequate, the triage officer must attempt to clear the airway by either repositioning the victim or clearing debris from the patient’s mouth. If these attempts are unsuccessful, the victim is classified as follows:

- No respiratory effort - **Expectant** (black tag)- this is the only START category that defines a patient as expectant.
- Respirations greater than 30 or the patient needs help maintaining an airway – **Immediate**.
- Normal respirations - Go to next step.

B. Perfusion

Perfusion is initially evaluated by measuring the radial pulse. If the casualty has a radial pulse, the blood pressure is assumed to be adequate (80 mm Hg), and the triage officer proceeds to the next step.

If a radial pulse is absent or the patient appears cyanotic, then the patient is classified as **Immediate**.

C. Neurological Status

The third and final level of assessment is the patient's neurological status.

Depending on the level of consciousness, the following classification is made:

- Unconscious – **Immediate**.
- Altered level of consciousness – **Immediate**.
- Change in mental status – **Immediate**.
- Normal mental responses – **Delayed**, then move to next victim.

2. Triage Patients Exposed to Chemical Agents

A. Nerve Agents

Unconscious or convulsing casualties, or those with major disorders of two or more body systems, are triaged **Immediate**. Immediate treatment should include antidote administration and positive pressure ventilation to preserve the airway. Rapid intervention will result in an improved outcome.

Nerve agent casualties are categorized as **Delayed**, if their initial symptoms are improving. Antidote treatment of these patients is dependent on the amount of antidote available. If supplies are limited, then **Immediate** patients will be treated first. The **Delayed** category is also used for patients recovering from exposure after treatment who are conscious and have an improved respiratory status. These patients may require additional treatment and definitely need to be observed for several hours.

The **Minimal** nerve agent casualty is walking and talking and indicates intact breathing and circulation. These patients may be able to assist other patients and/or decontamination efforts. The patient who has been apneic for more than 5 minutes and has no pulse or blood pressure is categorized as **Expectant**.

B. Mustard

Most mustard casualties are triaged as **Delayed**. However, patients with moderate to severe pulmonary signs and symptoms are classified as **Immediate**. Casualties with burns covering 5 to 50 percent of body surface area (BSA) or with eye involvement are **Delayed** and those with burns on less than 5 percent BSA are **Minimal**. The **Expectant** casualty is the victim with liquid mustard burns on greater than 50 percent BSA or no respirations or pulse.

C. Cyanide

Few signs and symptoms are visible except at very high doses. Severe cyanide exposures require rapid intervention and are categorized as **Immediate**.

Immediate signs and symptoms include convulsions, cessation of respirations, and death within 6 to 10 minutes. Casualties with lower dose exposures have headaches, nausea and vomiting, hyperventilation, and dizziness. These patients will deteriorate further if exposure continues.

D. “Choking” Agents

Patients who require **Immediate** attention are those who develop non-cardiogenic pulmonary edema within 6 hours after exposure to a “choking” agent such as phosgene. These patients should be transported to a hospital intensive care unit (ICU) if support is readily available. When there are no ICU resources available then casualties are **Expectant**.

Delayed casualties include those who develop cough and dyspnea 6 hours after exposure. These casualties should be transported to the hospital and admitted for observation, as they may develop pulmonary edema.

E. Psychological Casualties

Disasters have a tremendous emotional and psychological impact on victims and rescuers. A terrorist incident involving NBC agents has the potential to produce large numbers of psychogenic casualties who may quickly overwhelm existing hospital resources. The presenting signs and symptoms of these psychogenic casualties may confuse the clinical picture, making triage decisions more difficult. By following START, the subjective nature of the triage process is reduced, allowing personnel to make more appropriate triage decisions. Psychological casualties will normally be placed in the **Minimal** category. They should be collected in an observation area and monitored by a medical provider familiar with the signs and symptoms exhibited by patients with actual medical effects from the incident. Once clinical injury has been ruled out, a crisis team of psychiatric assessment specialists should continue the evaluation in a more controlled setting.

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ANNEX G

Antidote Medication List

Item No.	Item Description	Unit Of Issue	Total of UOIs Required
	2 PAM Chloride, IV, 1gm	Pkg/6	
	Acetaminophen - Tablet	Bottle	
	Acetaminophen -Elixir (peds)	Bottle	
	Albuterol Sulfate (Ventolin) .083% 2.5mg/2 ml Premixed Solution	Pkg/25	
	Albuterol Sulfate (Ventolin) Mdi Unit 1.8g w/ spacers	Ea	
	Amyl Nitrate Inhalers	Pkg/12	
	Aspirin	Bottle	
	Atropine, 0.1mg	Pkg/10	
	Atropine, 30cc - 0.4mg/cc	Pkg/10	
	Benadryl, 50mg, Inj (Diphenhydramine)	Pkg/10	
	Bretylium, 500 mg, Inj	Pkg/10	
	Calcium Chloride Inj (Pkg/10)	Pkg/10	
	Cyanide Kits	Ea	
	Dextrose, 50%, 25g	Pkg/10	
	Dexi strips	Bottle	
	Digoxin, 0.25mg	Bottle	
	Dopamine, 400mg, Amp	Ea	
	Epinephrine 1:10,000, 1mg (Pkg/10)	Pkg	
	Epinephrine 1:1000, 1mg (Pkg/10)	Pkg	
	Glucagon, 1mg	Ea	
	Insulin, NPH & Reg, 1000 units	Ea	
	Lasix, 20mg, Inj (Furosamide)	Pkg/12	
	Lidocaine, 2g Amp (Pkg/10)	Pkg/10	
	Lidocaine, Bolus, 100mg Pre-Filled Syringe	Pkg/10	
	Mark-I Kits	Ea	
	Morphine, 10mg/vial	Ea	
	Narcan, 2 mg	Pkg/10	
	Nitroglycerine SL	Bottle	
	Nubain, 10 mg	Ea	
	Procardia, 10 Mg Tab	Bottle/100	
	Promethazine (Phenergan), 25mg/vial	Ea	
	Promethazine (Phenergan), 50mg/suppository	Ea	
	Ringers Lactate, 1000cc	Case/6	
	Saline Solution IV (0.9% 500ml)	Case/24	
	Sodium Bicarbonate (4.2% Injection) (Pkg/10)	Pkg/10	
	Sodium Bicarbonate (8.4% Injection) (Pkg/10)	Pkg/10	
	Sterile Water (30cc For Injection) (Pkg/25)	Pkg/25	
	Valium, 10mg Syringe (Tubex) w/Tubex Holder	Pkg/25	
	Valium, Auto Injector	Ea	
	Verapamil, 5mg Inj.	Pkg/5	
	Chloropactin	Case /24	
	Silvadene solution	Case	
	Adenosine	Pkg/10	
	Activated charcoal	Pkg/10	
	Trebutaline	Pkg/10	
	Versed	Pkg/10	
	Succinylcholine	Pkg/10	
	Becuranium	Pkg/10	
	Compazine	Pkg/10	
	Nurcurae	Pkg/10	

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ANNEX H Acronyms

ALS	Advanced Life Support
ARC	American Red Cross
BLS	Basic Life Support
BSA	Body Surface Area
C/B	Chemical/Biological
CISD	Critical Incident Stress Debriefing
CNS	Central Nervous System
CWIRP	Chemical Weapons Improved Response Program
DoD	Department of Defense
DPP	Domestic Preparedness Program
DPW	Department of Public Works
EMA	Emergency Management Agency
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
FBI	Federal Bureau of Investigation
HAZMAT	Hazardous Materials
IC	Incident Commander
ICS/IMS	Incident Command System/Incident Management System
ICU	Intensive Care Unit
IRP	Improved Response Program
IV	Intravenous
NBC	Nuclear, Biological, Chemical
OST ³ C	Off-Site Triage, Treatment, and Transportation Center
PIO	Public Information Office(r)
POC	Point of Contact
PPE	Personal Protective Equipment

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SARA	Superfund Amendments and Reauthorization Act
UCS	Unified Command System
U.S.	United States
USPHS	U.S. Public Health Service
VA	Veterans Administration
WMD	Weapons of Mass Destruction

Alternative Health Care Facility

ANNEX I References

Auf der Heide (1989). Disaster Response: Principles of Preparation and Coordination. St. Louis, Missouri: CV Mosby Corporation.

Champion, M.D. (1986). Triage. J. Coyle (Ed.), Trauma Care System- A Guide to Planning, Implementation, Operation and Evaluation (pp. 79-109). Rockville, MD: Aspen Publishers.

Code of Federal Regulation, 29 CFR 1910.120, 1910.134.

Department of Health and Human Services, U.S. Public Health Service, Office of Emergency Preparedness, Atlanta Metropolitan Medical Strike Team, Atlanta-Fulton County Emergency Management Agency (1997). Atlanta Metropolitan Medical Strike Team Response Program. Unpublished manuscript.

Department of Health and Human Services. (1991). Managing Hazardous Material Incidents: Managing Guidelines for Acute Chemical Exposure vol. 3 (ATSDR Contract No. 205-90-0817). Rockville, MD: Agency for Toxic Substances and Disease Registry.

Florida Sheriffs' Association Statewide Task Force (1999). Emergency Mobilization Plan. Florida Sheriffs' Department Policy.

Nordberg, M. (1996). Terror At The Olympics. Emergency Medical Services, 25 (11), 54.

Office of Emergency Preparedness (1999). Counter Terrorism Program. Metropolitan Medical Response System [on-line]. Available: <http://www.oep.dhhs.gov>

Orange County Health Care Agency Emergency Medical Services (1992). Medical Aid Station Incident Command System Draft #4 [on-line]. Available: <http://www.emsa.cahwnet.gov>

San Mateo County Emergency Medical Services Agency, & California Emergency Medical Services Agency (1998). Hospital Emergency Incident Command System III [on-line]. Available: <http://www.emsa.cahwnet.gov>.

Seattle Fire Department (1998). City of Seattle Metropolitan Medical Strike Team Operations Plan. Unpublished manuscript.

Alternative Health Care Facility

U.S. Army Soldier and Biological Chemical Command, Domestic Preparedness, Chemical Team (1999). Guidelines for Mass Casualty Decontamination During a Terrorist Chemical Agent Incident <http://www.ecbc.army.mil/hld>, MIRP section

U.S. Army Soldier and Biological Chemical Command, Domestic Preparedness, Chemical Team (2000). Guidelines for Use of Personal Protective Equipment by Law Enforcement Personnel During a Terrorist Chemical Warfare Agents Incident. <http://www.ecbc.army.mil/hld>, MIRP section.

U.S. Army Soldier and Biological Chemical Command, Domestic Preparedness Chemical Team (2001). Chemical Weapons Improved Response Program (CWIRP) Playbook. <http://www.ecbc.army.mil/hld>, MIRP section.